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INDEX

Opening Lecture & Symposia

Fertility care in the context of an ongoing global total fertility decrease

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University of Utrecht

In the early 1970s the Report of Rome generated a powerful wake up call to the world. If population growth would continue the way it did, catastrophe was predicted and the future of the planet would be in danger. All attempts should focus on decreasing world population growth. At that time the global total fertility rate (the number of children born per woman) was around 6. Policies were implemented worldwide aiming to reduce the number of children born, and the widespread introduction at least in the more developed world - of various contraceptive strategies in the 1970s certainly helped to reach this goal. Especially in Western societies, the widespread uptake of the steroid contraceptive pill has contributed significantly to the liberation in women, and dramatically reduced the number of children born.

For a population to remain stable, approximately 2.1 child needs to be born per woman. At present, in around 50% of all countries mainly the more prosperous ones the number of children born is way below replacement level. It is anticipated that societies below replacement will increase up to 90% of all countries during the 21th century. Hence, underpopulation - causing distinct society challenges - rapidly becomes of distinct concern to many societies, especially Europe, China, and Japan.

On the other hand, the incidence of infertility remains around 15%. In some wealthy countries at least 10% of all children born are resulting from infertility therapies. However, access to fertility care varies tremendously due to high cost of treatment and lack of insurance coverage in the great majority of countries.

It is considered a human right for individuals or couples to establish a family if they wish to do so. However, historically little attention has been dedicated by policy makers to fertility care, mainly because the justified concerns for overpopulation. Moreover, demands for fertility care is increasing year by year, especially by single persons, and members from the LGBTQ+ community who wish to establish a family. Governments increasingly introduce various forms of child friendly policies aiming to stimulate people to have children. Policies around fertility care are not yet part of this discussion. Over the last decades, family planning has focused on the prevention of unwanted pregnancies. Family building strategies for people who wish to establish a family should be included in future family planning strategies.

From epidemiology to an innovative solution

Fezolinetant evidence from clinical trials

Antonio Cano (ES)

University of Valencia - INCLIVA

Vasomotor symptoms (VMS) are very frequent, up to 80%, among peri- and postmenopausal women. Their frequency and intensity can significantly affect the quality of life of many of them. There is strong evidence in favor of hormone therapy as the most appropriate option to control VMS. Research into the pathophysiology of VMS has shown that the mechanism is an increased sensitivity of the thermoregulatory center of the hypothalamus. The system is regulated by estrogens, and new data have shown the involvement of the kisspeptin-neurokinin-dynorphin (KNDY) group of neurons. Estrogen depletion triggers the release of neurokinin-3 which, through increased interaction with NK3 receptors (NK3R) in the medial preoptic nucleus, restores the thermal threshold to support the heat dissipation mechanism. Research in recent years has led to the synthesis of specific NK3R receptor antagonists, which have confirmed their efficacy in experimental models and early clinical research, and have finally reached the level of clinical trials. SKYLIGHT is a RCT showing significant effect of fezolinetant, a NK3 receptor antagonist, against VMS severity and frequency. The current research interest is mainly focused on efficacy on VMS and safety. The good balance at this level has opened up new areas of indirect improvement. These include quality of life (QoL), which is severely affected when VMS are frequent and severe, affecting about 25% of women. Several dimensions of QoL are being investigated, such as sleep quality, sexual function or performance in daily life. There has also been interest in its use in patients who are unable or unwilling to accept hormone therapy. Survivors of endocrine tumors, such as breast cancer, are one of several potentially affected groups.

From epidemiology to an innovative solution

Treatment of women with vasomotor symptoms with neurokinin-3 receptor antagonist Fezolinetant

Herman Depypere (BE)

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Although international clinical practice guidelines recognize a continued role for menopausal hormone therapy (HT), particularly for symptomatic women <60 years of age or within 10 years of menopause, safety and tolerability concerns have discouraged HT use due to potential links with a perceived increased risk of hormone-dependent cancers, and an established risk of stroke and venous thromboembolism. There is therefore a need for safe, effective non-hormonal therapy for relief of vasomotor symptoms (VMS) associated with menopause. Fezolinetant, a neurokinin-3 receptor (NK3R) antagonist is in clinical development for menopause-associated VMS. Altered signaling in neuroendocrine circuits at menopause leads to VMS wherein NK3R activity plays a key role to modulate the thermoregulatory center in a manner conducive to triggering the hot flash response. Thus, a new generation of NK3R antagonists has entered clinical development to specifically target the mechanistic basis of VMS. Fezolinetant is the most advanced NK3R antagonist in terms of stage of clinical development. Results to date have demonstrated rapid and substantial reduction in VMS frequency and severity and associated improvements in health-related quality of life. NK3R antagonists offer a non-hormonal alternative to HT for the treatment of menopause-related VMS.

Fezolinetant has the attributes of high NK3R target selectivity and a favorable PK profile based on the efficiency of free drug to attain target receptor engagement such that moderate, daily doses achieve drug efficacy with clear safety margins in trials of up to 12-weeks duration. Fezolinetant has advanced into multiple phase III clinical trials to measure efficacy and long-term safety.

Meet the Expert sessions

A new strategy for pain management in an outpatient setting

Pain in gynecology, pain associated with IUS placement and pain management strategies

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Pain in obstetrics and gynecology historically represents a complex issue that has included concepts as dismission in form of hysteria (endometriosis, dysmenorrhea) or virtue (childbirth). An increasing awareness among women of today contributes to reinforce health providers to capture and refine women s request in reducing, when possible, any procedure induced discomfort. Intrauterine contraceptives (IUC) are the most effective LARC and WHO recommends their use why it is of outmost importance improving insertion associated pain management. A number of factors can influence a woman s perception of procedural pain. Higher pain scores are associated with nulliparity or a long interval since last vaginal delivery, history of dysmenorrhea, preprocedural anxiety, and postmenopausal status in addition to psychological and cultural aspects. Pain management strategies including pre insertion approaches with pharmacological therapy using oral analgesia or cervical priming as well as pre insertion local anesthesia administration with various preparations of lidocaine using paracervical block, lidocaine prilocaine cream and lidocaine gel have been described with various results. The perception of pain during gynecological procedures originates from manipulation of the cervix and/or uterus. Pain from the uterus body and fundus ascends along efferent nerve fibers through hypogastric- and lumbar fibers (T10 L1) of the splanchnic plexuses. Pain from the cervix is relayed in sensory fibers parallel to the parasympathetic fibers (S2 S4) to the pelvic-splanchnic plexus. The sensory nerves involved in pain are localized just beneath the cervical epithelium and uterine endometrium, suitable for topical anesthesia. Lidocaine is a well-established amide-type local anesthetic that blocks conduction in peripheral nerves by interacting with TRP (transient receptor potential channel) inactivating sodium channels with subsequent loss of sensibility. Data indicate promising results in the local use of lidocaine thermo gel due to its favorable pharmacokinetic properties of rapid onset and intermediate duration of action. In order to enhance the overall use of IUC besides the effort in predict risk patients there s a demanding need to uniform the strategies for IUC insertion pain management that we need to actualize transforming the issue into practice.

A new strategy for pain management in an outpatient setting

Histeroscopy in outpatient setting with local anesthesia via SHACT 4% lidocaine thermogel

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Hysteroscopy is the gold standard for evaluation of the uterine cavity and it is nowadays mainly performed in office setting. Vaginoscopy is the no touch standard technique. It is an atraumatic approach that significantly reduces the stimulus of pain. The patients appreciate the convenience of the see and treat approach, avoiding the inconvenience of going to the OR.
The epithelium of the cervix and endometrium have transient, short-acting type 1 vanilloid receptors. This receptor is the key molecule in the nociceptive and inflammatory process, they are non-selective nociceptive channels activated by stimuli that can be chemicals, thermal and mechanical. The local anesthetic inhibits in a non-selectively voltage-dependent the sodium channels and is favoured by an adequate pH and thus blocks neurotransmission.
The stratification of risk factors could allow the identification of subgroups for pain control in a specific and individualized way. The evidence and the clinical practice is not still clear. Local anesthetics are suggested as the best methods for pain control during hysteroscopy. The scientific societies recognize the utilization of single or combination agentes in na individualized way.
In this context we have news, a thermogel of 4% lidocaine designed for gynecological procedures at cervical and intrauterine level. We report a preliminary experience with the thermogel in office hysteroscopy. A total of 34 patients were included, median age 51 [24-86], median BMI: 25,11 [19.8-37.9]. The majority had vaginal delivery (61%, n=21) and around one-fourth were nulliparous. Dysmenorrhea was reported by 75% (n=25) that most often caused pain of intensity 3-4 in VAS. Expected pain associated with hysteroscopy was above 5 (VAS). Intense and extreme anxiety was mentioned by most of the patients (n=20). The experienced pain was distributed more frequently in values below 4 (VAS). The pain was equal or less than expected in 74% (n=25). The satisfaction rate was 85% (n=29). The satisfaction was inferior in patients with higher BMI (p=0.02) and anxiety (p=0.04).
It will still be ambitious to delineate the patients who could significantly benefit from the use of this local anesthesia in the era of vaginoscopy. Maybe in more complex and prolonged procedures. It can also have advantages for overcoming failure procedures due to pain and cervical stenoses. The control of pain for more than 30 minutes would be of great impact even in inpatient setting.

Covid And Pregnancy

Pre embryo: Medical, Moral and Legal Aspects

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The pre-embryo refers to the early stage of human development following fertilization but before implantation in the uterus, typically up to about 14 days old.
The moral status of the human pre-embryo is a subject of ethical and philosophical debate Some argue that the pre-embryo should be accorded full moral status and rights from the moment of fertilization, considering it as a human being. with the same moral value and rights as any other person.
This perspective is often rooted in religious or philosophical beliefs that attribute personhood to the zygote, On the opposite end of the spectrum, some argue that the pre-embryo lacks moral status and that considerations about moral standing and rights are only applicable to more developed entities with consciousness and sentience The legal status of pre-embryos is closely tied to regulations governing assisted reproductive technologies (ART) and embryonic research.
In countries where embryonic research is allowed, the legal status of pre-embryos used for research purposes may be subject to specific regulations and oversight.
These regulations often aim to strike a balance between advancing scientific knowledge and respecting ethical considerations
Recently stem cell research and developmental biology have opened up possibilities for generating synthetic gametes, also known as in vitro-gametogenesis (IVG), refer to the process of generating functional sperm and eggs outside of the human body through cellular reprogramming or other techniques September 2023 , Weitzman Institute - Israel reported the possibility of generating artificial embryos from stem cells. The aim to understand early human development better and potentially use this knowledge to treat various medical conditions and advance reproductive technologies The present scientific achievements create concern around the potential misuse of this technology, as well as questions about the moral status of these synthetic embryos and the implications in human reproductive technologies

Endocrine And Reproductive Challenges In Gyneco-Oncology

Decision-making in BRCA mutations carriers, from chemoprevention to prophylactic surgery

Valentina Elisabetta Bounous (IT), Silvia Actis (IT), Marta D'Alonzo (IT), Luca Pace (IT), Giulia Lavalle (IT), Carola Minella (IT), Francesca Accomasso (IT), Nicoletta Biglia (IT)

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Context:

BRCA1/2 germline mutations are autosomal dominant DNA repair deficiency syndromes that substantially increase the risk of breast and ovarian cancers (BC and OC). BC risk in BRCA1 pathogenetic variants (PV) carriers is between 57% and 66%, and for BRCA2 PV mutation carriers is between 45% and 61% by the age of 70 years. OC risk stands at around 39-58% for BRCA1 and around 13-29% for BRCA2 PV carriers. A specific surveillance program is indicated for BRCA1/2 PV carriers, including discussion of prophylactic risk reduction methods.

Objective:

to review the possible strategies that can be used in healthy BRCA1/2 PV mutation carriers to reduce the risk of cancer and, in some cases, improve survival.

Results:

prophylactic mastectomy is effective in reducing the risk of BC in patients with a PV mutation and has also been shown to reduce mortality. It is a procedure that should only be performed after careful consideration of the physical and aesthetic implications, possible complications, and reconstructive options. It should also be evaluated based on the patient's family history, as well as her age and comorbidity.

Tamoxifen may be considered for its effectiveness in reducing the risk of BC, although data are less solid for mutation carriers.

Bilateral risk-reducing salpingo-oophorectomy (RRSO) is recommended between the ages of 35 and 40 for BRCA1 PV carriers and between the ages of 40 and 45 for BRCA2 PV carriers, as the onset of OC in patients with BRCA2 PV occurs on average 8-10 years later than in patients with BRCA1 PV. RRSO reduces the risk of OC, BC, fallopian tube, and peritoneal cancer and it reduces all-cause mortality. During counseling, it is important to consider the reproductive desire and the age at which cancer was diagnosed in the patient s family. The risks and benefits of concurrent hysterectomy at the time of RRSO for individuals with a BRCA1 PV should be discussed with the patient, even though it should not be routinely recommended. Risk-reducing salpingectomy alone, with or without delayed oophorectomy, cannot be considered the standard of care in carriers of a BRCA PV.

Further frontiers in modulating the cancer risk penetrance of BRCA1/2 mutations may prove useful in the future, also considering the increasing importance of personalization of advice and treatment.

Endocrine and reproductive challenges in gyneco-oncology

Conservative treatment for well-differentiated endometrial cancer: when should be considered in young women

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University Of Pisa

Endometrial carcinoma is the sixth most commonly diagnosed cancer in women worldwide, with increasing incidence in post-menopausal women. The estimated number of new cases of endometrial Carcinoma in Europe in 2020 was 130 051 with 29 963 deaths, and the incidence has been rising with ageing and increased obesity of the population. Recent evidence-based guidelines provide comprehensive guidelines on all relevant issues of diagnosis and treatment in endometrial carcinoma in a multidisciplinary setting. While addressing work-up for fertility preservation treatments and the management and follow-up for fertility preservation, it was considered relevant further to extend the guidance on fertility-sparing treatment for endometrial carcinoma. Even if the diagnosis of this disease is rare in pre-menopausal women. The standard treatment for endometrial carcinoma is removal of the uterus and ovaries (total hysterectomy with bilateral salpingo-oophorectomy); therefore, this approach offers excellent survival outcomes, with a five-year recurrence-free survival rate of >90%. While effectively increasing the chances of surviving the disease, this treatment is devastating for young women, who would no longer be able to carry a pregnancy. Fertility-sparing treatment in endometrial carcinoma is an option for a subgroup of women who are selected based on a thorough evaluation of reproductive potential. Fertility-sparing treatments should be exclusively applied in women with early-stage, non-metastatic disease. Indeed, Women with grade 1 stage IA endometrioid endometrial carcinoma (without myometrial invasion) seem to have a greater chance of responding to treatment with progestins. In contrast, the likelihood of presenting with advanced disease in the future is low. Implicit patient evaluation should take into consideration the reproductive potential and risk factors that affect the potential for the patient to carry a pregnancy successfully, including the status of the uterus. Although highly efficient progestin-based regimens have achieved satisfactory results, 10% 30% of patients are insensitive to progestin and become refractory cases. Several questions regarding potential second-line treatments for progestin-insensitive cases remain unanswered, and their therapeutic effects have not been clarified.

Old and new medical and surgical challenges in pregnancy

Thyroid Function and Pregnancy outcome

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Thyroid Function and Pregnancy outcome

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Abstract

Thyroid hormones, by affecting prolactin and sex hormone-binding globulin levels, as well as oocyte maturation, significantly affect reproductive function in women. Subclinical or overt hypothyroidism is most common, and hyperthyroidism is less common. Approximately 10% of women show immunological thyroid disorders with increased antibody levels. There is no conclusive data that hyperthyroidism is accompanied by fertility disorders. Hypothyroidism in pregnancy is a factor in its risk, as therapy in the first trimester is proposed propylthiouracil, while thiamazole is recommended in the second and third trimesters due to its hepatotoxic effects. Breastfeeding should take place immediately after taking the drugs and 3 hours before the next feeding. Hypothyroidism is accompanied by abnormalities in monthly bleeding and ovulation and is the most common cause of fertility and pregnancy disorders, especially when accompanied by elevated levels of anti-TPO antibodies. Medications used to treat hypothyroidism are not contraindicated for breastfeeding during pregnancy, and screening tests in the form of TSH, FT4 and anti-TPO determination are recommended for women planning pregnancy and who are pregnant.

PCOS: Supervening Aspects Of Great Clinical Impact

New insights on the biological factors that trigger insulin resistance in PCOS

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Polycystic Ovary Syndrome (PCOS) is a very frequent endocrine disease that triggers menstrual irregularities, anovulation and infertility. Up to now 2 out of 3 diagnostic criteria need to be evidenciated so that to meet the Rotterdham Criteria to diagnose PCOS. Recently it has been reported by several studies that insulin resistance (IR) occurs at at higher rate than normal population in PCOS patients especially in those that show overweight or obesity and even at a higher rate in those who have familial diabetes.
Other than the evaluation of insulin baseline levels, the execution of Oral Glucoe Tolerance Test (OGTT) permits to evaluate not only the specific response to the glucose load but also the dynamics of insulin secretion and its relation with C-peptide pancreatic secretion, this last considered the real marker of the pancreatic activity in response to the glucose stimulation.
Recently, it has been evidenciated that the compensatory hyperinsulinemia of PCOS is at the basis of the predisposition to Metabolic Syndrome occurrence as well as of the chance of having the risk of Non Alcoholic Fat Liver Disease (NAFLD) and later of hepato-fibrosis. Though not specific, the evaluation of ALT and AST plasma levels, together with OGTT and HIE (Hepatic Insulin Extraction) index might give additional insights on the partecipation of liver in the hyperinsulinemic condition. In fact liver is partly responsible of such situation together with overweight/obesity and familial predisposition to diabetes since liveri s in charge of insulin degradation which is reduced/impaired in PCOS patients.
Knowing all such details might be essential in finding a good integrative treatment to reduce IR and decrease the liver impairment.

PCOS: Supervening Aspects Of Great Clinical Impact

PCOS, pressing issues concerning the most common disorder in reproductive aged women

Bart Fauser (NL)

University of Utrecht

According to the Rotterdam diagnostic criteria, PCOS is characterized by oligo/anovulation, clinical or biochemical signs of hyperandrogenemia along with the polycystic appearance of ovaries. Although not part of the diagnostic criteria, PCOS often coincides with early signs of metabolic dysfunction and obesity. Even controlled for body weight, insulin resistance can often be observed.
PCOS is often first diagnosed by gynecologists in the context of anovulatory infertility. Infertility treatments are often effective resulting in more than 80% of women with PCOS getting pregnant. However, even singleton pregnancies in women with PCOS are more often are compromised; especially gestational diabetes, hypertension during pregnancy and suboptimal perinatal outcomes. We have conducted various prospective cohort follow-up studies demonstrating that especially obese, hyperandrogenic, insulin resistant women with PCOS are prone to develop pregnancy complications. Sparce PCOS children follow-up studies demonstrate early but subtle signs of cardiometabolic dysfunction both in girls and boys. It remains to be elucidated to what extent these abnormalities are related to a genetic predisposition or to an abnormal environment during embryonic development.
It has been clearly established in the general population that signs of metabolic dysfunction at early age is clearly associated with later life health risks such as myocardial infarction or stroke. The presence of obesity at young age further increases the risk for later live health problems. It is generally believed, that the same would apply to women with PCOS, especially in the hyperandrogenic phenotype. Cross sectional studies of postmenopausal women presenting with hyperandrogenemia (taken as a proxy for PCOS) or few long-term follow up studies have generated conflicting results. Recent meta-analysis suggest a small but significant increased risk for developing later life cardiovascular disease. The questions arises why women with PCOS, presenting with various early age risk factors, do not clearly present with a distinctly increased prevalence of later life cardiovascular disease. And how should follow-up of these women during reproductive and post-reproductive life be advised?

Placenta Accreta Spectrum (Pas)

First trimester sonographic detection of PAS

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Diagnosing placenta accreta spectrum (PAS) in the first trimester of pregnancy can be challenging because this condition typically becomes more apparent in the later stages of pregnancy. Placenta accreta spectrum refers to a group of conditions where the placenta attaches too deeply into the uterine wall, making it difficult to separate during delivery. A thorough medical history can help identify risk factors associated with PAS, such as previous cesarean sections or other uterine surgeries, placenta previa, or prior pregnancies with PAS. Identifying these risk factors early on can heighten suspicion and prompt closer monitoring. While PAS is typically diagnosed later in pregnancy, a skilled ultrasound examination may detect certain signs or risk factors in the first trimester. If a woman has placenta previa (the placenta is located near or covers the cervix) in the first trimester, there may be a higher risk of PAS, although this is not a definitive diagnosis. If there are concerns about PAS based on risk factors or initial ultrasound findings, serial ultrasounds throughout the pregnancy to monitor the placental location and growth are recommended. It's important to note that a definitive diagnosis of PAS often requires confirmation through imaging studies later in pregnancy. The exact diagnosis and management plan should be discussed with an expert, who can tailor the approach to the specific circumstances of the pregnancy and the individual patient's medical history and risk factors. Early detection and monitoring are essential because PAS can lead to serious complications during childbirth, and a multidisciplinary team of healthcare providers should be involved in the care of women with suspected or confirmed PAS.

Clinical Corner sessions

Management of Trans-people in a Gynecological-Obstetric Office

Camil Castelo-Branco (ES)
Hospital Clínic

Transsexualism is an emergent medical and legal problem. Discrimination, inaccessibility of medical care, lack of qualified medical specialists, high costs of services, lack of ethical skills, transphobic moods, inadequacy of existing mechanisms of medical care to transgender people with the principles of human rights, imperfection of the legislative base among other circumstances are actual concerns nowadays. Transsexual subjects need to receive an effective and safe treatment. The purpose of those treatments is to rehabilitate a person as a member of the society in the gender area with which he or she is identified. Options for medical treatment include feminization or masculinization of the body through hormonal therapy and / or surgery that are effective enough to alleviate gender dysphoria and are medically necessary for many patients. Despite the improvement in the medical care of transsexuals in countries with advanced human rights protection, there are multifactorial problems around the world that are associated with providing medical care to this group of patients, both in primary and highly specialized institutions. The lack of qualified health professionals and medical information on trans-health care is cited as one of the main reasons for the limitations for patients with gender transition seeking for medical assistance. The result of inaccessibility of qualified medical care can be self-castration, uncontrolled hormone therapy, suicidal mood and long-term social disadaptation of transsexuals who cannot compensate for their gender discomfort. This lecture will discuss the management of transsexuals, the types, rationale, the effectiveness of their treatment, the recommendations of clinical centers, and the potential side effects of cross-sex hormonal treatment.

Endocrine and reproductive challenges in gyneco-oncology

Prescribing hormones or alternative treatments in women with a breast cancer history

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Context

Breast cancer is increasing worldwide and the survival rate has significantly increased due to earlier diagnosis and advances in adjuvant treatments. Breast cancer survivors (BCS) experience long-term treatment-related side effects and decreased quality of life (QoL). Many BCS experience climacteric symptoms, which result directly from therapy with tamoxifen, aromatase inhibitors, ovarian suppression or chemotherapy. The more frequent symptoms are hot flushes but also genitourinary syndrome of menopause (GSM), a new terminology referring to the wide range of vaginal and urinary symptoms related to menopause, has become a main problem for BCS.

Objective

To review the possible strategies to cope with menopause in BCS

Results

Hormone replacement therapy (HRT) is the most effective treatment for menopausal symptoms, however it is not recommended for BCS. Open and controlled trials demonstrated that selective serotonin reuptake inhibitors (SSRIs), as well as selective serotonin-norepinephrine reuptake inhibitors (SNRIs) are effective non hormonal alternatives for the treatment of vasomotor symptoms. New drugs, such as oxybutinin and neurokine receptor antagonists are promising non hormonal options for hot flashes. For GSM treatment, nonhormonal vaginal moisturizers or lubricants are the first choice for BCS but for non responders low or ultra low-doses of vaginal estrogens or vaginal prasterone can be considered, for patients who are not under aromatase inhibitors. After the completion of adjuvant treatments the oral selective estrogen receptor modulator ospemifene can be considered. Among the physical treatments, many trials suggest vaginal laser as a valid option for treating GSM in BCS.

Conclusions.

QoL and sexual well-being are important for BCS, especially for young women. Many different alternative strategies to HRT can be discussed with symptomatic menopausal BCS.

Polycystic Ovary

Poor ovarian reserve- how to deal with an unsuspected finding

Teresa Almeida Santos (PT)
CHUC

In Portugal since 1982, the average age of women at the birth of their first child has increased from 25 to 30 years, in line with what is happening in other European countries.
Poor ovarian reserve (POR) is defined by the presence of at least 2 of the following criteria: advanced maternal age > 40 or any other risk factor for POR; previous POR (d 3 oocytes with conventional stimulation of >149 IU FSH daily) and an abnormal ovarian reserve test (AFC < 5 7, or AMH < 0.5 1.1 ng/ml). The best answer to this problem is to prevent its devastating effects on the women/couple. 1 out of 10 women has lower AMH than expected for age. AMH levels are a marker of oocyte quantity, rather than quality. For women below 30 low AMH levels would not affect pregnancy rates in the short term. An infertility diagnosis or a direct correlation with treatment success rates cannot be made through AMH testing, but finding low/extremely low AMH can influence women s fertility plans. Screening for POR through AMH evaluation below 30 has been hypothesized to improve reproductive counselling outcomes by providing women with more information. Women facing a low AMH may decide not to change their reproductive plans, to expedite it, or to consider oocyte cryopreservation. But, by attempting to conceive earlier, pregnancy success rates could be improved, both naturally and with ART if needed, as women would start at a younger age than previously planned potentially reducing costs while allowing for improvement of the birth rate.
A survey conducted in Portugal has shown that 36% of women would accelerate their first pregnancy to the next 2 years when a low AMH was found. Among the 300 women, only 12% were not interested in performing the test (mostly concerned by its cost but also because of fear of discomfort, pain or anxiety).
Based on this knowledge an economic model was developed to estimate the economic impact of implementing a nationwide OR screening with the AMH test, for women 25 30 years old.
This economic analysis supports the hypothesis that the implementation of a nationwide screening program in Portugal for diminished ovarian reserve in young women, through an AMH test, not only could provide women with valuable information needed to make informed decisions but would also shorten the infertility journey, ultimately leading to a more efficient use of treatments and an increase in live birth per attempt, also substantially reducing costs.”

Functional hypothalamic amenorrhea: clinical aspects

Functional hypothalamic amenorrhea: clinical aspects

Blazej Meczekalski (PL)

Poznan University of Medical Sciences

Functional hypothalamic amenorrhea : Clinical Aspects
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Functional hypothalamic amenorrhea (FHA) is one of the most common causes of secondary amenorrhea. It is classified as hypogonadotropic hypogonadism. There are three types of FHA: weight loss-related, stress-related, and exercise-related amenorrhea. FHA results from the aberrations in pulsatile gonadotropin-releasing hormone (GnRH) secretion, which in turn causes impairment of the gonadotropins (follicle-stimulating hormone and luteinizing hormone). The final consequences are complex hormonal changes (short and long-term) manifested by profound hypoestrogenism. One of the most important consequesnces is depressive impact on reproductive function. The most characteristic feature is anovulation. FHA exerts a negative influence on the skeletal system. It is related to a great extent to the failure to achieve peak bone mass (PBM). FHA patients are threatened by osteopenia and osteoporosis. Hypoestrogenism can interfere with the cardiovascular system function in many ways. It is refferd mainly to endothelial dysfunction and changes in lipid profile. Hypoestrogenism in young women with FHA is strongly related to changes in different neuropeptides, neurotransmitters and neuro- steroids activity at the brain level. Specifically, serotonin, dopamine and allopregnanolone fluctuations can modulate mood in FHA amenorrheic women. Sexual dysfunctions in FHA can be related to hypoestrogenism and hypoandrogenemia. FHA is important clinical problem.

Symposia

ART

Artificial Intelligence in the ART lab

Gemma Arroyo (ES)

Dexeus Mujer

We've seen in recent years how technology has been incorporated into our lives to make us more productive and organized. In the first world, everyone has a mobile device that allows them to check their schedule, access the cloud at any time of day and from any location, and effortlessly balance their personal and professional lives.

Similar to this, artificial intelligence gathers information about our whereabouts, inquiries, and interests, then extracts that information to build algorithms that increase its effectiveness.

Automation of procedures is necessary in the laboratory of the future in order to prevent human error. Artificial intelligence will assist us in measuring and forecasting the growth of the follicles during ovarian stimulation. The application of robots in the lab will assist in carrying out procedures that reduce the dangers of gamete loss that come with any manipulation. Artificial Intelligence will assist us in choosing the greatest embryos and gametes. Millions of photos of embryos with greater prospects will be gathered by Artificial Intelligence, replacing the need for years of training on the part of the embryologist. The conditions under which embryo cryopreservation takes place will remain constant thanks to automation. Is this a benefit? Or will we lose our independence and the ability to customize the protocols? This session's goal is to discuss the current state of affairs and the use of artificial intelligence to assisted human reproductive methods.

ART

Poor ovarian responders ART options

Tevfik Yoldemir (TR)

Marmara University, School of Medicine

The Bologna criteria defined poor ovarian responders if at least two of the following three conditions were present: (i) advanced maternal age (e40 years) or any other risk factor for poor ovarian responders, (ii) a previous poor ovarian response with a conventional ovarian stimulation protocol, and (iii) an abnormal ovarian reserve test, such as an AFC <5 7 follicles or AMH levels <0.5 1.1 ng/mL. The POSEIDON (Patient-Oriented Strategies Encompassing IndividualizeD Oocyte Number) group categorized poor responders into four subgroups. Group 1 consists of patients <35 years with sufficient pre-stimulation ovarian reserve parameters (AFC “e5, AMH “e1.2 ng/ml) and with fewer than 4 oocytes (Group 1a) or four to nine oocytes retrieved after standard ovarian stimulation (Group 1b). Group 2 consists of patients “e35 years with sufficient pre-stimulation ovarian reserve parameters (AFC “e5, AMH “e1.2 ng/ml) and with fewer than 4 oocytes (Group 2a) or with four to nine oocytes retrieved after standard ovarian stimulation (Group 2b). Group 3 consists of patients <35 years with poor ovarian reserve pre-stimulation parameters (AFC <5, AMH <1.2 ng/ml). Group 4 consists of patients “e35 years old with poor ovarian reserve pre-stimulation parameters (AFC <5, AMH <1.2 ng/ml). The cumulative delivery rate is 50% lower in POSEIDON patients than in non-POSEIDON patients.

For Poseidon groups 1 and 2, the ART calculator can predict the necessary number of mature oocytes to increase the likelihood of transferring at least one euploid embryo. Genotype screening for FSH receptor variants, LH ²chain variants, and LHCG receptor variants can be considered. Androgens can be given to selected patients in the pre-treatment phase. Stimulation protocols (agonist and antagonist regimens) with increased FSH dosage, adding rLH to rFSH, Duo-Stim can be chosen for Poseidon groups 1 and 2. Genetic testing for aneuploidy can be considered for Poseidon group 2. For Poseidon groups 3 and 4, androgen, growth hormone, and CoQ10 can be used before stimulation starts. Long protocol, estradiol or OCP primed antagonist protocols, or Duo-stim can be alternative approaches. rFSH + rLH or HMG can be used during stimulation. Follicle to oocyte index (FOI) can be used to evaluate the outcomes of each treatment cycle. Changes to the timing of oocyte retrieval, and dual or double triggers for final oocyte maturation can be considered. Oocyte/ embryo accumulation and DuoStim are other options to choose from.”

Breast

New insights in breast cancer development

Alfred O. Mueck (DE), Xiangyan Ruan (CN)

[Mueck] University of Tuebingen,
[Ruan] University of Tuebingen, Germany and Capital Medical University of Beijing, China

For the development of PGRMC1, a multifunctional receptor belonging to the MAPR-family, we within a collaboration project between University of Tuebingen (Germany) and Capital Medical University (China) have performed within the last 15 years a systematic research program, to establish this mediator as possible predictive marker for an increased hormonal-dependent breast cancer risk. We were encouraged for our research due to Editorials on our first studies, suggesting, that the results in WHI could be explained by overexpression of PGRMC1 in a larger part of the study-population (Menopause 2011;18:833-834; 2013; 20: 486-487). We started with 1) in-vitro experiments in different breast cancer (BC) cells (e.g. Menopause 2005;12:468-474; 2011;18:845-850; 2013;20:504-510; Maturitas 2013;76:129-133; Climacteric 2012;15:467-472; 2013;16:509-513; Gynecol Endocr 2012;28:863-866; 2013;29:160-163; Oncotarget 2017;8:72480-72493), we continued with animal studies (Maturitas 2017;102:26-33; 2019;123:1-8; Gynecol Endocr 2020;36:1024-1027), and finally we performed clinical studies with breast cancer patients (Menopause 2017;24:203-209; 2020;27:183-193; Maturitas 2020;140:64-71; Climacteric Feb 2022; online). In-vitro studies showed dose- and time-dependent BC-cell proliferations with all available synthetic progestogens but not with progesterone, but mostly significant only in presence of PGRMC1. Within different animal-xenograft studies, the next step after the in-vitro program, we could confirm, that synthetic progestogens but not progesterone and dydrogesterone increased the E2-induced animal tumor-proliferation, although with dydrogesterone a time-dependent small increase could be seen. In our clinical studies expression of PGRMC1 in BC-tissue could be correlated to tumor characteristics like tumor diameter, grade and metastatic status. Patients with PGRMC1 in the tumors had poorer disease-free and overall survival. After developing of an assay, we could correlate blood-levels of PCRMC1 to the expression in BC-tissue demonstrating PGRMC1 to be superior to tumor markers such as CEA, CA125, CA153 and TPS. After calculating sensitivity and specifity we assessed a cut-value for PGRMC1, which now can be used for routine screening before start of HRT with regard to a possible increased breast cancer risk. We recommend patients with higher blood levels not to treat with HRT or only to treat with progesterone or dydrogesterone during carefully monitoring this therapy.

Challenges in pelvic floor reconstructive surgery

Is robotic surgery the right answer for pelvic floor defects?

Steven Schraffordt Koops (NL)

Meander Medical Center Amersfoort

About 1 in 6 women (11-19%) undergo a surgical pelvic organ prolapse (POP) correction due to prolapse or urinary incontinence related complaints.[1] After primary surgical repair of female POP, high recurrence rates are found.[2,3] Vaginal vault prolapse is common and specifically recurrences in the anterior compartment are a recognized long standing problem.[2-4]Determination of long-term outcomes for the patient after prolapse surgery is therefore essential. Open abdominal sacrocolpopexy (ASC) has been shown to have lower recurrent vault prolapse than vaginal approach for prolapse, but is related to a longer return to daily activities. [2] In order to avoid this long recovery time, a minimally invasive approach for sacrocolpopexy has been used. The current literature describes objective cure rates for the apical compartment to be 97-100% after robot-assisted sacrocolpopexy (RASC).[5] However, these results are mostly based on short- to mid-term time frames. Solely a few studies describe outcomes more than 24 months after surgery.[5] In addition, long-term postoperative results on patient reported outcomes are lacking. Female POP influences quality of life as well as day-to-day activities, emphasizing the need for long-term subjective results even more.[6] The objective of this presentation is to evaluate whether robot-assisted prolapse surgery leads to both long-term improved anatomic results as well as subjective patient reported outcomes compared to other surgical options for the treatment of gynaecological prolapse.

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Contraception and Contragestion

Progestin only contraception [POC]: underused & misunderstood

Ali Kubba (GB)

General Hospital- London Bridge Hospital

Progestins have been the best kept secret in contraception. Their popularity is increasing on the back of the promotion of LARC methods all of which are progestin only. Moreover the advent of progestin only pills [POPs] that inhibit ovulation, may cause amenorrhea and are extremely safe is attracting young women to the method.
We know much more about POCs. The efficacy of LARCs is much higher than short acting methods such as COCs. We now recognise that the efficacy of POPs is no different to that of COCs. The difference between the 2 methods is that the only absolute contraindication to POPs is current Breast cancer.
I will present other myth busting information about POCs but also look to the future developments in this field.

Current Evidence: Progesterone in the Spectrum of Pregnancy Maintenance

Progesterone for the Prevention of Preterm Birth

Angharad Care (GB)

University of Liverpool / Liverpool Women's Hospital

Context
This invited talk is an overview of the current evidence and role of progesterone in the prevention of spontaneous PTB and will include data from our published network meta-analysis.

Objective
The talk will include data to compare the efficacy of all known interventions to prevent PTB in high risk women to establish the most effective.

Methods:
Systematic Review with Bayesian network meta-analysis

Patient(s)
Randomised controlled trials (RCTs) of pregnant women who are at high risk of sPTB due to a history of sPTB or short cervical length.

Intervention(s)
To compare the efficacy of all PTB prevention therapies

Main Outcome Measure(s)
We analysed 7 maternal outcomes and 11 fetal outcomes in line with published core outcomes for PTB research; Relative treatment effects (Odds Ratios [OR] and 95% Credible Intervals [CrI] and certainty of evidence are presented for outcomes PTB<34 weeks and perinatal death

Result(s)
Sixty-eight trials (18,191 pregnant women) contributed data to analysis for at least one outcome. For PTB<34 weeks, 46trials (14,030pregnant women) contributed data. Relative to placebo or no treatment, vaginal progesterone was associated with fewer cases of PTB <34 weeks(OR0.49;95%CrI0.34-0.67, high quality evidence)whilst Shirodkar cerclage demonstrated the largest effect size(OR0.07 95% CrI 0.00-0.82),but the certainty of evidence was low. For the fetal outcome of perinatal death, 38 trials (13,269 pregnant women) contributed data to the network. Vaginal progesterone was the only treatment that demonstrated clear evidence of benefit for this outcome(OR 0.66; 95% CrI 0.44-0.98,moderatecertainty). In addition, IM Progesterone(OR 0.77,CrI 0.50-1.21,moderate certainty of evidence),McDonald cerclage (OR 0.63,CrI0.36-1.08,moderate certainty of evidence) and unspecified cerclage (OR0.78,CrI 0.54-1.12,moderate certainty of evidence)may reduce perinatal death rates, but CrIs could not exclude the possibility of harm. Compared to controls, only progesterone treatments are associated with reduction in neonatal respiratory distress syndrome, neonatal sepsis, necrotising enterocolitis, and admission to neonatal intensive care unit

Conclusions
Vaginal progesterone should be considered the preventative treatment of choice for women identified to be at risk of sPTB due to a history of sPTB or short cervical length. Future RCTs should be using vaginal progesterone as a comparator to identify better treatments or combination therapies

Current Evidence: Progesterone in the Spectrum of Pregnancy Maintenance

Progesterone in the prevention of threatened and recurrent miscarriage

Adam Devall (GB)

University of Birmingham

Miscarriage, defined as the loss of a pregnancy before 24 weeks of gestation, is the most common complication of early pregnancy, affecting approximately 15% of clinically recognised pregnancies. The steroid hormone progesterone is essential for the maintenance of pregnancy, and progesterone deficiency is associated with miscarriage. Two important clinical risk factors for miscarriage are a history of previous miscarriages and vaginal bleeding in early pregnancy. Progesterone supplementation has therefore been attempted to prevent miscarriages in asymptomatic women with a history of miscarriages and in women who have started to bleed in early pregnancy. The latest evidence from high quality clinical trial research has shown that vaginal micronized progesterone treatment of women with the dual risk factors of early pregnancy bleeding and a history of one or more previous miscarriages increases the likelihood of a successful live birth (relative rate 1.08, 95% CI 1.02 to 1.15, high certainty evidence). Other synthetic progestogens, including dydrogesterone, were not found to be effective treatments for threatened miscarriage, and there remains safety concerns about the use of these other progestogens. Vaginal micronized progesterone has also been shown to be cost-effective, leading to the UK National Institute for Health and Care Excellence committee for the guideline Ectopic pregnancy and miscarriage: diagnosis and initial management (NG126) updating their guidance to recommend the use of vaginal micronized progesterone to treat women with the dual risk factors of a history of one or more previous miscarriages and early pregnancy bleeding.

Endometriosis, Adenomyosis and Uterine Myoma

Hormonal and non-hormonal drugs for the treatment of women with endometriosis

Stefano Luisi (IT)

University of Pisa

Endometriotic lesions are associated with hormonal imbalance, including increased estrogen synthesis, metabolism and progesterone resistance. These hormonal changes cause increased proliferation, inflammation, pain and infertility. Hormonal imbalances are targets for treatment. Therapeutic strategies and innovations of hormonal drugs for endometriosis are increasing. Acting on estrogen receptors are hormonal drugs decreasing systemic and local estrogen synthesis (GnRH analogs, GnRH antagonists, Aromatase inhibitors) or estrogen activity (selective estrogen receptor modulators). The progesterone resistance is counteracted by progestins (Dienogest, Levonorgestrel) or by Selective progesterone receptor modulators, a class of drugs under development. Although there are substantial improvements in non-hormonal therapy options, majority of the currently available treatment options are suppressive rather than curative. Future research priorities should be to identify novel target therapies and to evaluate the effects of available drugs through different routes of administration. A possible future strategy will include the use of non-hormonal drugs associated with hormonal treatments for targeting multiple site of action.

Endometriosis, Adenomyosis and Uterine Myoma

Is AMH an indicator for ovarian endometrioma surgery?

Michelle Nisolle (BE)

CHU Citadelle

AMH serum concentration in women strongly correlates with ovarian reserve quantity and reflects ovulation potential.It serves as marker for ovarian function in artificial reproductive technology. The outcome of ART is dependent on the ovarian response to ovarian stimulation as defined as the number and quality of eggs obtained.Ovarian response can be interpreted as ovarian reserve. AMH levels may aid in the prediction of ovarian response to gonadotropin stimulation with low levels of AMH being correlated to a low response and low pregnancy rate.

The deleterious effects of the presence of endometriosis in the ovarian reserve itself as well as the risk of affecting the ovarian reserve by the surgical procedures are taken into account when deciding whether or not to operate on patients who want a pregnancy. Therefore, in many centers, patients are directly referred to IVF instead of offering them an appropriate surgical procedure associated with the possibility of getting pregnant spontaneously. As endometriosis is mainly found in women of reproductive age, the impact of endometrioma and its treatment on ovarian function must be evaluated in order to maintain the best chances of pregnancy.

Bilaterality, size of endometrioma, stage of endometriosis and patient s age are in- dependent factors that should be also considered when planning a surgery in patients who are interested in preserving their fertility. Bilateral endometriomas, stage III/IV endometriosis and patients over the age of 35 have a higher impact on postsurgical AMH levels. The indication of surgery for an ovarian endometrioma should be thoroughly discussed with the patient, with particular emphasis on the issue of possible damage to the ovarian reserve. The review of the literature demonstrates that the endometrioma ablation procedure, even if performed in patients with a decreased ovarian reserve, is beneficial in terms of pregnancy.

Fertility counselling in patients with endometriosis is currently a hot topic as most women consider their knowledge on fertility preservation insufficient. Adequate information on fertility and reproductive choices, such as oocyte vitrification, should be incorporated into follow-up visits for endometriosis patients. Fertility preservation by oocyte vitrification in patients with endometriosis is an emerging field of medical reproduction but it s indication must be carefully considered and should not be offered to all patients suffering from endometriosis.

Endometriosis, Adenomyosis and Uterine Myoma

Differential diagnosis between uterine fibroids and adenomyosis

Silvia Vannuccini (IT), Felice Petraglia (IT)

University of Florence, Italy

Uterine fibroids (UFs) and adenomyosis are common myometrial disorders of reproductive age women, presenting with menstrual symptoms and fertility issues. Despite a different pathogenesis, the conditions share common symptoms and sometimes adenomyosis and UFs coexist in the same uterus. UFs are the most common benign tumors affecting fertile age women, with a prevalence ranging from 50% to 60%. The real epidemiology remains unknown, because several cases are asymptomatic and underreported. However, UFs cause significant morbidity, as they may present with abnormal uterine bleeding (AUB), heavy menstrual bleeding (HMB), bulky symptoms such as pelvic pressure, increased urinary frequency, constipation, abdominal bloating, dyspareunia, and reproductive issues (i.e. infertility, recurrent miscarriage). UFs, as well as adenomyosis, may negatively affect work productivity, sexuality, self-image, relationships, emotional and physical well-being. Adenomyosis is defined by the pathological presence of endometrial glands and stroma in the myometrium. It is considered a specific entity in the PALM-COEIN FIGO as cause of AUB and HMB, even though it is characterized also by dysmenorrhea and dyspareunia. Besides, adenomyosis causes infertility, recurrent miscarriage and adverse obstetric outcomes.

The diagnosis of both UFs and adenomyosis is mainly by ultrasound or MRI. Transvaginal ultrasound is the first-line approach and the MUSA consensus is daily applied to provide recommendations on how to describe the myometrium. A myometrial lesion may be well-defined, as seen typically in UFs, or ill-defined, as seen typically in adenomyosis. UFs localization is defined according to the FIGO classification. UFs normally show shadows at the edge of the lesion and/or internal fan-shaped shadowing. On the contrary, the typical ultrasound features to diagnose adenomyosis are asymmetrical thickening of uterine walls, intramyometrial cysts or hyperechoic islands (or both), fan-shaped shadowing of the myometrium, myometrial echogenic subendometrial lines and buds, translesional vascularity, and irregular or interrupted junctional zone. The differential diagnosis between UFs and adenomyosis is particularly important in case there is a focal lesion, especially the adenomyoma. Understanding of these two clinical entities may improve surgical planning as well as preoperative patient selection and counselling.

Endometriosis: Metabolonics: diet and sexual quality of life

Endometriosis and dietary interventions

Velja Mijatovic (NL)

Academic Endometriosis Center, Amsterdam UMC, The Netherlands

Endometriosis is characterized by the presence of endometrium-like tissue outside the uterus. The etiology remains largely unknown. Despite adequate treatment, patients can still experience symptoms or side effects resulting in therapy incompliance and in self-management strategies such as dietary measures is increasing. Some studies have found a positive effect on the risk of endometriosis, endometriosis-related symptoms and quality of life (QoL) when women either avoided certain nutrients or foods, or applied a specific nutrient supplementation. This includes the avoidance of red meat and omega-3, an increasing intake of foods rich in anti-oxidants, micronutrients and dietary fibers (e.g., fruit, vegetables) and the appliance of a gluten free diet. However, data from the available studies were generally graded of low quality and it was noted that placebo and/or nocebo effects influenced the reported positive effects. In addition, such effects were no longer seen when adjusting for confounders such as overweight, when a translation was made from in vitro to in vivo, or when the nutrients were not supplemented as isolated sources but as part of a mixed daily diet. Finally, some studies showed that long-term adherence to a gluten free diet is often associated with an impaired diet quality and nutrient intake, leading to negative health outcomes and reduced QoL. Concluding, scientific evidence on the efficacy of dietary interventions on well-defined clinical endpoints of endometriosis is lacking and more research is needed before firm recommendations can be made.

Endometriosis: Metabolonics: diet and sexual quality of life

Endometriosis and sexual quality of life

Jacques Maas (NL)
MUMC+

Endometriosis is defined as a disease characterized by the presence of endometrium-like epithelium and/or stroma outside the endometrium and myometrium, usually with an associated inflammatory process (ESHRE guideline 2022).
It occurs in 10-15% of women in the reproductive phase, in 35-50% of subfertile women and 50-70% of women with chronic pelvic pain. It has been known for a long time that the main complaints of endometriosis are dysmenorrhoea, dyschezia, and dyspareunia. However, it was not until 2014 that attention was also drawn to sexual problems in the paper: Lets Talk About Sex and Endometriosis by, among others, the former president of the World Endometriosis Society. They showed that deep dyspareunia occurs in 67% of women with rectovaginal endometriosis and 53% in case of peritoneal and/or ovarian endometriosis, this compared to 26% in the control group. The consequences of this dyspareunia became clear in an international survey on QOL. 47% of women with endometriosis reported dyspareunia and half of these women stop or avoid intercourse because of this pain. Moreover, the women with dyspareunia had a significantly lower QOL.
Pain during sex leads to reduced arousal and desire. Biopsychosocial variables play an important role. Uncertainty, fear, expectations and guilt are known factors. And partly due to characteristics such as catastrophizing, anxiety and depression, pain during sex leads to sexual dysfunction. All this can be reinforced by the social context such as perception of the man, the relationship, and the desire to have children. As a result, we see reduced lubrication (possibly also influenced by medication), pelvic floor hypertonia and an even greater increase in pain. Disease specific characteristics such as diagnostic delay with long-term uncertainty, increase in pain over time and high recurrence rate have a negative impact on dyspareunia and worsen dysfunctional behavior.
In conclusion, in endometriosis, sexual quality of life is determined by more factors than just dyspareunia. Treatment with medication and/or surgery for endometriosis alone is not sufficient to improve sexual quality of life. This requires a biopsychosocial approach.

Fertility Preservation

The impact of cancer and its treatment on female fertility

Richard Anderson (GB)

University of Edinburgh

Ongoing developments in cancer care mean that more and more young people are surviving, and thus any effects of their treatment on their subsequent fertility are increasingly important considerations. Effects of chemotherapy on the ovary have been recognised for several decades but recent years have seen a large growth in interested in this, in part driven by the emergence and development of methods for fertility preservation. The key effects of cancer therapy on female reproductive function are related to the dose and nature of the therapy, and the patient s age at the time. We will explore the research underpinning these various components, including consideration of whether the effective age is in part or totally mediated by the natural decline in the ovarian reserve, and potential effects on the stroma. Many studies use biomarkers rather than fertility as the outcome as such studies require very long duration; we will update with the current literature on this. These studies do show important differences between diagnosis and changes over time. There is therefore an inevitable historic nature to some of these data, whereas new cancer therapies are emerging rapidly with new therapies that may well have effects on ovarian function, yet data available on their impact on human fertility is very scant. This highlights the need for prospective analyses in current and ongoing clinical trials in oncology.

Fertility Preservation

Endometriosis and fertility: there is a need for fertility preservation?

Annemiek Nap (NL)

Radboud University Medical Center in Nijmegen, the Netherlands

Endometriosis is a chronic inflammatory disease leading to pain and subfertility. It affects 5-10% of women of reproductive age and up to 50% of subfertile women. There are numerous causes of decreased fertility in endometriosis, including adhesions and suboptimal tubal ovarian contact, the presence of inflammatory mediators, reduced receptivity of the endometrium, decreased oocyte and embryo quality, and reduction of the ovarian reserve due to the presence of endometriomas or due to iatrogenic damage resulting from surgery. In order to minimize negative effects of endometriosis on fertility, fertility preservation can be considered. There are different strategies for fertility preservation: cryopreservation of oocytes, embryos or ovarian tissue may all be discussed.
In the case of endometriomas, ovarian reserve is at risk when surgery is performed, especially when endometriomas are present in both ovaries. Evidence is present stating that surgery results in a reduction of AMH levels in women with ovarian endometriosis.
If fertility preservation seems to be an option, the most appropriate technique should be discussed, depending on the individual situation. In young patients prior to ovarian surgery, oocyte preservation may be considered. Depending on age, the number of oocytes necessary to achieve a realistic chance to become pregnant has to be discussed. In women >= 35 years of age, immediate pregnancy or fertility treatment should be considered. Preservation of embryos could be considered in women having a stable relationship and a (future) childwish with their partner. In case preservation of the reproductive potential is desired, counseling can be done concerning ovarian tissue preservation. This technique could be offered to women in whom ovarian stimulation is not feasible.
When counseling women with endometriosis concerning fertility preservation, efficacy of preservation, quality of oocytes and embryos after preservation, and cost-effectiveness of the different techniques should be kept in mind.

Gynecologic Oncology: Precision Medicine in Surgical Trials

How ICG technology is revolutionising Gynecologic Oncology Surgery

Raj Naik (GB)

Queen Elizabeth Hospital

Indocyanine green (ICG) is a sterile, anionic, water-soluble tricarbocyanine dye with a molecular weight of 751 Daltons. It becomes fluorescent when excited with light in the near infra-red (NIR) spectrum (approximately 820nm).
Following iv injection, ICG is rapidly bound to plasma proteins (especially ²-lipoprotein), with minimal leakage into the interstitial space. When injected outside blood vessels, ICG binds to proteins, concentrates in the lymphatic channels and reaches the sentinel lymph node (SLN) in approximately 15 minutes. ICG enhanced fluorescence was introduced in surgical practice in order to improve visualization and provide detailed anatomical information during surgical procedures.
In gynaecological oncology surgery, it s recent useage includes sentinel node assessment in vulva, cervix, endometrial and ovarian cancer, vascular assessment following bowel procedures including anastomoses and stoma formation, vascular assessment in skin flap surgery, lymphangiography with re-construction of lymphatic channels, and intra-operative tumour mapping and detection.
For sentinel node assessment, recent publications show it s performance and diagnostic test statistics (specificity, sensitivity, positive and negative predictive values) appear to surpass alternative agents including patent blue dye and radioactive technetium. It s ease of use and minimal toxicity/side-effects provide additional advantages.
For vascular assessment following bowel procedures, there are a number of clinical trials showing reduced anastomotic leak rates and bowel ischaemic events with the use of ICG. Similarly, with skin flap formation an objective evaluation of skin flap perfusion results in a reduced risk of post-operative ischaemic necrosis and improved healing.
Clinical trials are currently on-going to determine its value in lymphatic vessel micro-surgery in the prevention/treatment of lymphoedema in addition to the intra-operative detection/mapping of tumours and correlation with pre-operative imaging including PET/CT.
This presentation will include a series of edited videos demonstrating a) sentinel node detection in vulva cancer and b) early stage ovarian cancer, c) vascular assessment of small and large bowel following cytoreductive surgery for advanced ovarian cancer, d) bowel anastomoses vascularity following ileal conduit formation, and e) skin flap vascularity as part of the reconstructive procedure following a posterior vulvo-vaginectomy.

Insights into role of metabolism and L-carnitine/micronutrients in the fertility system

Clinical evidence for efficacy of metabolic compounds in male fertility

Gian Maria Busetto (IT)

University of Foggia

Infertility incidence is estimated at 15% of couples globally. Male factor behind 20-30% of infertility cases and upto to 50% of cases overall. Sperm has high energy requirement for maturation, capacitation and motility and many factors affect sperm quality acting through decreased energy and increased reactive oxygen species (ROS) via mitochondrial dysfunction. Sperm is vulnerable to ROS and this is the main cause of its immobilization, impairment of acrosomal reaction, abnormal morphology, DNA fragmentation and cell death. High ROS levels increase mitochondrial DNA (mtDNA) copy number but decrease mtDNA integrity. A delicate balance of reduction and oxidation is required for optimal sperm function, including chromatin compaction in maturing spermatozoa during epididymal transit. There are many lifestyle habits and diseases related to increase in oxidative stress: smoking, pollution, radiation etc. Looking at primary pathologies of male reproductive system causing infertility, congenital causes are always related to genetic abnormalities while acquired causes are mainly related to infection/inflammation and varicocele. To date varicocele is considered as the most common diagnosis reported in infertile males and despite pathophysiologic mechanisms have not been completely elucidated, it has and adverse effect on spermatogenesis.

Antioxidants play an important role in spermatozoa energy metabolism. Many clinical studies have shown that their administration to asthenospermic subjects increases the percentage of mobile spermatozoa, progressive rapid motility, average speed and linearity sperm index. L-carnitine, acetyl-L-carnitine, selenium, coenzyme Q10, fructose and citric acid, vitamin C, vitamin B12 and zinc are all important in keeping the correct balance of reactive oxygen species for correct oxidative stress as well as controlling damage to the sperms genetic material, synthesis of coenzymes, metabolism and energy production.

Evidence is accumulating that sperm parameters are a paradigmatic index of good health and longevity. Sperm are affected early in the pathogenesis of medical disorders and maybe in the near future sperm parameters could be used for monitoring male health. The future development of proteomics and male personalized therapy should achieve better results and enable better understanding of mechanisms involved in sperm damage and infertility.

Insights into role of metabolism and L-carnitine/micronutrients in the fertility system

Role of mitochondria and redox state in sperm and oocyte health

Ralf Henkel (GB)

LogixX Pharma

Like any living cell, sperm and oocytes are producing their energy largely aerobically in the mitochondria by oxidative phosphorylation and oxidation of hydrogen in the form of nicotinamide adenine dinucleotide (NADH). However, about 1-5% of the consumed oxygen is converted into reactive oxygen species (ROS) such as H2O2 or superoxide. If produced at physiological levels, these highly reactive compounds trigger essential physiological functions such as steroidogenesis, oocyte maturation, sperm capacitation and acrosome reaction. However, if produced excessively, these oxidants cause oxidative stress (OS), dysfunction, disease and aging. Hence, it is important that the bodily redox homeostasis is maintained and the system remains in oxidative eustress and is not shifting in oxidative distress or reductive stress, which is as harmful as OS. ROS do not only oxidize lipids but also cause DNA damage. If mitochondrial DNA is damaged, this leads to a vicious cycle of producing more ROS leading to more OS. Numerous conditions in males and females such as varicocele, obesity, poor lifestyle choices, endometriosis or PCOS are causing infertility due to OS. In sperm, OS leads to higher mutagenic risk, paternal imprinting defects, nuclear DNA damage, telomere attrition, or loss of motility. Sperm mitochondrial damage with subsequent mitochondrial dysfunction and loss of sperm functionality after exposure of sperm to oxidative and reductive stress, respectively, was observed. In oocytes, apart from DNA damage, impaired maturation, aneuploidy, altered gene expression, mitochondrial functions are damaged. While no difference between fertile and infertile women in antioxidants such as superoxide dismutase or glutathione was observed in serum, free glutathione was significantly high in follicular fluid of infertile women. Apart from improving lifestyle, possible treatment options are with antioxidants. Yet, since antioxidants can also exhibit prooxidant properties if administered at too high dosages, the concentration as the formulation of the antioxidant treatment play essential roles. Since L-carnitine is involved in the transfer of long-chain fatty acids between cytosol and the mitochondria, the modulation of acyl-Co-enzyme A/Co-enzyme A and the reduction of toxic acyl groups by excreting carnitine esters, this quaternary ammonium compound has shown positive effects in improving fertility in men and women.

Lectures by Netter Prize Awardees

Chronotype: A Tool to Screen Eating Habits in Polycystic Ovary Syndrome?

Giovanna Muscogiuri (IT), Luigi Barrea (IT), Ludovica Verde (IT), Claudia Vetrani (IT), Silvia Savastano (IT), Annamaria Colao (IT)

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Polycystic ovary syndrome (PCOS) is the most common endocrine disorders in women of reproductive age, whose lifestyle approach is an essential part of the treatment. Recently, chronotype, i.e., a trait that determines individual s circadian preference in behavioral and biological rhythms, has been reported to play a role in determining nutrition preferences and the risk of developing chronic diseases. Thus, the aim of this study was to investigate if chronotype categories (morning, evening, and neither) could be used as tool to screen eating habits in women with PCOS. In this observational cross-sectional study, we assessed anthropometric measurements, lifestyle habits, chronotype categories, adherence to the Mediterranean Diet, dietary pattern, and metabolic parameters in 112 women with PCOS. Chronotype was classified as morning in 27.7%, evening in 42.9%, and neither in 29.5% of subjects. Women with PCOS with evening chronotype showed significantly higher percentages of grade I ($p =$
0.003) and grade II obesity ($p = 0.001$), did less regular exercise ($p < 0.001$), and most of them were smokers ($p < 0.001$) compared to those with neither and morning chronotypes. Women with PCOS with evening chronotype were significantly more insulin resistant (Homeostatic Model Assessment of Insulin Resistance
(HoMA-IR) cut off > 2.5) than other two chronotypes ($p < 0.001$). Women with PCOS with evening chronotype had the lowest PREvención con DIetaMEDiterránea
(PREDIMED) score, consumed more calories ($p < 0.001$), total ($p < 0.001$) and simple carbohydrates ($p < 0.001$), total fat ($p < 0.001$) and saturated fatty acids ($p < 0.001$), polyunsaturated fatty acids ($p < 0.001$) and n-6 polyunsaturated fatty acids ($p < 0.001$), and less fiber ($p < 0.001$) than women with PCOS with other chronotypes. In addition, women with PCOS with evening chronotype consumed less extra virgin olive oil ($p = 0.001$), legumes ($p = 0.038$), fish/seafood ($p < 0.001$), and tree nuts ($p = 0.041$) than women with PCOS of the other two chronotype categories and less red wine ($p < 0.001$) and more red/processed meat ($p < 0.001$) than women with PCOS with morning chronotype. In conclusion, in women with PCOS, evening chronotype has been associated with a most severe insulin resistance and unhealthiest eating habits. Thus, chronotype assessment could be an effective tool to screen the eating habits, and more generally the lifestyle, of women with PCOS

Lectures by Netter Prize Awardees

Hysteroscopic grasper development

Salvatore Giovanni Vitale (IT)

Division of Gynecology and Obstetrics

This lecture aims to give a quick overview of the hysteroscopic endometrial biopsy, starting from grasper developments to the related biopsy techniques, with a particular focus on the innovative biopsy snake grasper sec. Vitale, whose performances were evaluated on a multicenter, single-blind, randomized clinical trial named HYsteroscopic GRasper for Endometrial Biopsy (HYGREB-1).

AIM:

The aim of this trial was to evaluate its clinical performance in an outpatient setting by comparing it with the spoon grasper and the alligator grasper in performing endometrial biopsy in postmenopausal women with abnormal uterine bleeding or endometrial thickening.

METHODS:

the study was conducted at the Obstetrics and Gynecology Unit of the University of Catania (Italy) in collaboration with the Obstetrics and Gynecology Unit of the University of Varese Insubria (Italy). Women were randomized (1:1:1 ratio) into three groups and allocated to undergo endometrial biopsy by hysteroscopy using a spoon, alligator, or snake grasper.

RESULTS:

Seventy-five women were included in the study, 25 in each group. The duration of the biopsy was comparable between the three groups ($P = 0.334$) with a median of 180 seconds (range 20 480 seconds). No differences were observed in the number of attempts ($P = 0.602$), the use of another instrument ($P = 0.276$), and the biopsy appropriateness ($P = 0.592$). The spoon grasper group reported higher levels of pain compared to the alligator and snake grasper groups ($P < 0.001$). The spoon grasper received significantly lower scores by the operator compared to the alligator and snake grasper ($P < 0.001$). The alligator and snake grasper reported wider biopsy than the spoon grasper ($P < 0.001$).

CONCLUSION:

Snake and alligator hysteroscopic grasper may be considered the first choice to perform an endometrial biopsy in postmenopausal women.

Menopause Hormone Therapy and Beyond

Menopause and reproduction (an oxymoron or a new reality)

Camil Castelo-Branco (ES)

Hospital Clínic

Reproduction is a biological process that allows the creation of new organisms, being a common property of all known life forms. The basic modalities of reproduction are grouped into two types: sexual and asexual reproduction. In order to be possible human reproduction, it is necessary an adequate ovule suitable to be fertilized and a sperm that meets the appropriate conditions to interact. On the other hand, menopause, is due to the end of follicular activity and therefore the end of reproductive life. Therefore, this topic is clearly an Oxymoron (from the Greek @¾Í¼ÉÁ¿½, in Latin contradictio in terminis)...or may be not?

There are 4 items to be discussed on this challenging lecture First, spontaneous pregnancies at advanced ages (> 50 years); second, ART in menopausal women; third, spontaneous pregnancies in IOP and finally fourth the restoration of fertility in IOP .

1)The oldest women who deliver a healthy baby by natural fertilization was Ruth Alice Kistler who gave birth at 57 years and 129 days im Glendale, Los Angeles 18 Oct. 1956. It is important to know that 50% of women will ovulate during their last cycle, 25% of women ovulate even when cycles are greater than 60 days and that, all these conditions are independent of age.

2) ART: Decrease in insemination success rates 73% under 30 years of age but 53% over 40 years of age. IVF: 2.4 cycles women 25 y whereas the number increases upto 4.6 in women over 40 y. However, when used donnor eggs the rates of success are similar to youngers. The older woman delivering a healthy baby by ART was Mangayamma Yaramati at 74 years of age (Andhra Pradesh, India)

3)Spontaneous pregnancies in POI: Poi is not a permanent cessation of ovarian function, upto 50% women diagnosed with POI experience signs of ovarian activity in the following years and spontaneous pregnancies are possible (5-10%). This fact entails medical, psychological and social implications including the need for contraception, the need of hormone therapy and the consideration of oocyte donation in case of reproductive desire.

4) Fertility preservation and fertility restoration: Múltiple experimental and rutinary options are available including for prevention: GnRH analogs, cryopreservation (vitrification) of oocytes, embryo cryopreservation, ovarian tissue cryopreservation and egg donation and for restoration: Cell therapy:(Mesenchymal Stem Cells Bone Marrow, Mesenchymal stem cells Amniotic fluid, Stem Cells Umbilical cord),

Platelet-enriched plasma cell therapy, Follicular Activation in Vitro and Follicular Activation in Vitro Drug Free

Menopause Hormone Therapy and Beyond

Premature Ovarian Insufficiency - new guidelines

Nick Panay (GB)

Imperial College London

The presentation will use as its basis the European Society of Human Reproduction and Embryology 2015 POI guidelines which are currently being updated and the International Menopause Society (IMS) 2020 White paper on POI. A summary of key POI guidelines from the IMS White Paper is shown below.

Demographics / etiology / pathophysiology of POI

Terminology and diagnostic criteria should be standardised to avoid confusion about diagnosis.

“ Full understanding of etiology / pathophysiology will facilitate efficient diagnosis and management e.g., global registry / biobank.

“ Global, ethnic and cultural variations in prevalence, presentation require clarification.

Diagnosis of POI

“ Personal e.g., menstrual health and family history are very important in making the diagnosis.

“ The diagnosis should not be made on the basis of only one FSH level.

“ AMH testing is only required if there is diagnostic uncertainty.

“ A baseline DEXA scan should be offered to all women diagnosed with POI.

Management of POI

“ Management of women with POI should ideally be multidisciplinary and include patient advocacy groups.

“ Lifestyle, diet exercise should be optimised.

“ Hormone replacement at least until average age of menopause should be first line treatment unless contraindicated or if rejected by the woman after careful counselling.

“ There are very few data for the benefits and risks of CAMS and non-hormonal bone sparing agents in POI.

“ Replacement can be with the COC initially if contraception is required or because of personal preference, but in the long-term HT is recommended to optimise bone and metabolic health.

Key Research priorities in POI

“ Global POI registry collaboration / expansion / biobanking. e.g. https//: poiregistry.net

“ Further determination of etiology of POI, especially genetic.

“ Discovery of reliable biomarkers for predicting POI.

“ Impact of hormonal interventions e.g. HT v COC, types of HT / COC on

o Quality of Life

o Psychological/psychosexual aspects

o Bone, cardiovascular and cognitive health.

“ Role of androgen supplementation for QOL, cardiovascular, bone, cognitive health and fertility.

“ Differential impact and management of iatrogenic and spontaneous POI.

“ POI as part of an aging syndrome v aging following POI due to hormone deficiency.

“ Confirmation of efficacy and safety of fertility enhancing techniques.

“ Further clarification of role and division potential of human oogonial stem cells.”

Menopause Hormone Therapy And Beyond

When and why MHT should be considered for osteoporosis/penia treatment?

Serge Rozenberg (BE)

Departments of Ob-GYN CHU St Pierre, Brussels, Université Libre de Bruxelles

This narrative review analyses the customization of Menopause Hormone Therapy (MHT) for osteoporosis prevention and treatment in the context of the patients age and menopausal age. In short, MHT is indicated in most women suffering from menopause before the age of 45 years except for breast cancer survivors. These women should be treated with MHT until the age of 50. For women menopaused around the age of 50 years, risks associated with MHT are low, and MHT is a safe option provided there is an indication for it. We suggest that pursuing MHT entails different risks than initiating it, after the age of 60. In both cases, advantages and risks should be evaluated. We suggest using risk calculators to assess the magnitude of these risks and choosing regimens that entail the lowest breast and thrombosis risks.

Minimizing invasiveness through new surgical strategies: vNOTES (vaginal Natural Orifice Transluminal Endoscopic Surgery)

vNOTES surgery for benign gynecology: indications and challenges

Géraldine Giraudet (FR)

[Giraudet]

The vNotes is the best approach for many gynaecological surgical procedures. It avoids scarring, reduces post-operative pain and shortens hospital stays. The main indication is hysterectomy, but we can also perform adnexectomy, tubal sterilization or suspension of the utero-sacral ligaments in the case of prolapse. There are many other possibilities, but the main challenge is to re-establish the vaginal route as the primary choice for hysterectomy in order to improve women's health.

Polycystic Ovary

Differential approaches to PCOS Management Experience of Multidisciplinary Team Practice in Ukraine

Tetiana Tatarchuk (UA), Tetiana Tutchenko (UA), Elina Manzhalii (UA)

[Tatarchuk] Institute of Pediatrics, Obstetrics and Gynecology NAMS of Ukraine,
[Tutchenko] Institttute of Pediatrics, Obsterics and Gynecology,
[Manzhalii] Bogomolets National Medical University

PCOS is the most prevalent neuroendocrine female disorder with lifelong and transgenerational cardiometabolic effects. Existing approaches PCOS management need continuous improvement. Although the exact causes of PCOS are poorly understood, it is generally believed that it is the genetic background exacerbated by lifestyle and environmental factors. Multifactorial origins and polymorphic clinical presentation imply personalized management both for cardiometabolic risks prevention and symptom management. One of the purposes of PCOS phenotyping was achieving more effective prediction of cardiometabolic risks. Thus, data on PCOS phenotypes distribution in different countries are required.

Population study of PCOS Rotterdam based phenotypes distribution in Ukraine showed that: phenotype A was the most prevalent - 47.7%, phenotypes B, C and D were 17.6%, 17.4% and 17.3% respectively. As in other populations, classic phenotypes were characterized by higher rates of obesity, but in all phenotypes obese, overweight, and normal weight subjects were present. The rate of obesity in non-classic phenotypes was lower in younger age groups but increased in older age groups, which suggests that metabolic health of non-classic phenotypes suffers with age.

Analysis of current opinions shows that Rotterdam based phenotyping is not enough for effective personalized management of PCOS which is reflected in low patient satisfaction rate. The variant of multidisciplinary team actions based on patient-oriented approach is presented. It includes symptom and fertility management plan based on patient expectations and needs following education on PCOS. It also includes universal cardiometabolic screening, nonalcoholic liver disease screening, depression and eating disorders screening. Preliminary results of young lean normal weight hyperandrogenic PCOS patients metabolic screening showed that they are not free from metabolic disorders (dyslipidemia, insulin resistance) and have high frequency of fatty liver associated primarily with high free androgen index due to low SSBG and unhealthy eating habits.

We can expect that screening for nonalcoholic fatty liver disease in the early stages may improve the prevention of metabolic complications of PCOS, as well as improve the management of hyperandrogenism and ovulatory dysfunction in PCOS women. Further studies are warranted to prove it.

Sexuality

Functional hypothalamic amenorrhea versus PCO-syndrome: similarities and differences

Johannes Ott (AT)

Medical University of Vienna

Usually, polycystic ovary syndrome (PCOS) is defined by the Rotterdam criteria. However, women affected by functional hypothalamic amenorrhea (FHA) can also easily fulfill these criteria, especially in presence of polycystic ovarian morphology (PCOM), which is quite common in FHA women (40-50%). To misdiagnose FHA as PCOS is presumably of relevant negative impact for the patient, since many PCOS-specific therapies do not treat estrogen deficiency with all its negative consequences. Although no clear criteria for this difficult differential diagnosis have been established, levels of luteinizing hormone, sexual hormone binding globulin, the gestagen challenge test among other tools have been proposed. Moreover, the lecture will be about the unclear association between FHA and PCOM, which makes the issue more difficult and might be related to stress.

Contraception and Contragestion

Meningiomas

Lise Duranteau (FR)

Department of Medical Gynecology, Bicetre Hospital, APHP Paris Saclay University, Le Kremlin Bicetre, France.

Meningiomas are the most frequently diagnosed primary brain tumor accounting for about one third of all primary brain and central nervous system tumors. Main identified risk factors for meningioma are age and female sex, genetic predispositions, especially attributed to hereditary mutations of the neurofibromatosis type 2 gene and exposure to high dose ionising radiation (1). A role of sexual hormones is suggested because of the presence of estrogen, progesterone, and androgen receptors on some meningiomas, reports of growth of meningiomas during pregnancy or associated with exposure of hormonal treatment with synthetic progestogens (2). Consequently, the use of any progestogen is contra-indicated in patients with a known meningioma or who have been operated for a meningioma. Cyproterone acetate (CPA) is a progestogen with a strong anti-androgen effect. It is used in cross-over hormone therapy in transgender persons, in prostate cancer and in clinical hyperandrogenism in women. High dose of CPA has been shown to be associated with a high risk of meningioma (3) with a reduction in risk after discontinuation of treatment (4,5). Treatments over one year with two other progestogens, chlormadinone acetate (CMA) and nomegestrol acetate (NMGA) used in gynecological indications such as endometriosis and abnormal uterine bleeding, have been shown to be associated with a high risk of intra-cranial meningioma (6). A case-control study has been recently performed to determine the risk of meningioma associated with the use of other progestogens including progesterone and progesterone derivatives. Data showed that medrogestone and medroxyprogesterone acetate at 3.5mg for injectable contraception were also associated with a risk of intracranial meningioma. In contrast, no association was observed for progesterone and dydrogesterone or levonorgestrel used in hormonal IUD (7).

The French Drug Authority has published recommendations to minimize the risk of meningioma associated with the use of the concerned progestogens: 1/ when possible, alternative treatment or the use of a progestogen not associated with a risk of meningiomas should be preferred 2/ to annually assess the risk benefit of the concerned progestogens 3/ to perform cerebral MRI when treatment is maintained over one year and afterwards if the treatment is renewed.

Reviews of available data in the literature have not shown a significant risk of meningioma associated with the use of hormonal contraceptives while conflicting for menopausal replacement therapy (8). Additional studies are needed to explore the risk of meningioma associated with other progestogens such as dienogest used in endometriosis and drospirenone in combined and progestogen only pills.

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Endometriosis, Adenomyosis and Uterine Myoma

Choosing progestogen for endometrial protection: oncological considerations

Attila Jakab (HU)

University of Debrecen Faculty of Medicine

When hormone replacement therapy (HRT) in early menopause or menopausal hormone therapy (MHT) in natural menopause is indicated, the proliferative effect of estrogen must be opposed by cyclic or continuous administration of progestogen in women with intact uterus to prevent endometrial cancer. Young obese patients with chronic anovulation may also require long term protective progestogen therapy. Those medications are usually held up for years or even decades, thus the possible known unfavorable oncologic effects of the different treatment options need to be considered. There is a wide range of available progestogen compounds and the routes of administrations. Several large studies with MHT have indicated that the increased breast cancer risk associated to the long-term use of MHT is related to the progestogens and less to the estrogen. However, the magnitude of the risk is found to be different between the compounds and the applications. Although the micronized progesterone is considered to carry no breast cancer risk, it may not be the best option for everyone. Further, there are also differences between the progestogens and the medication patterns in terms of endometrial protective effect. The patients personal risk profile, such as weight or breast density needs to be considered as well. In this lecture the breast cancer and endometrial cancer risk profile of different progestogens will be discussed in relation the treatment pattern, duration of use and application. The risk profile of the tibolone will be addressed as well.

Progestin

Vascular effects of progestogens

Alfred Mueck (DE), Xiangyan Ruan (CN)

[Mueck] University of Tuebingen,
[Ruan] University of Tuebingen, Germany and Capital Medical University of Beijing, China

Large Evidence from clinical and experimental studies supports a cardioprotective effect of estrogens in women. Estrogenic vascular effects depend on the stage of vascular function, i.e. the progress of atherosclerotic damage. Generally, progestogens may reduce or abolish beneficial estrogenic effects by, for instance, vasoconstrictory actions. The magnitude of any possible impact may depend on the ability of the vessel to compensate by counter-regulation. Negative progestogenic effects in atherosclerotic vessels, especially during long-term treatment, cannot be excluded but may be reduced by certain progestogens such as progesterone or dydrogesterone (retro-isomer of progesterone). The hitherto existing studies investigating biochemical markers acting as surrogates for direct vascular function have demonstrated that these progestogens mainly have have neutral effect or may even increase certain beneficial estrogenic effects like vasodilatation. The effects, however, are also related to pharmacokinetic parameters, so even those more "vascular-neutral" progestogens can antagonize the estrogenic action using higher dosages. On the other hand progestogens, well known to inhibit positive estrogenic action like MPA may act neutral in lower dosages. Likewise using NETA in combi-patches have shown to be neutral in contrast to oral application of NETA. These investigations on direct vascular action complement studies measuring metabolic changes. In this regard, numerous studies of progestogens are available on lipid and carbohydrate metabolism which have also consequences on vascular effects by acting within the complex mechanisms of atherosclerosis changing also vascular function. In addition data are available on clinical parameters such as on blood pressure and blood flow measurements. However, for investigating the effects in at-risk patients (i.e. women with pre-existing cardiovascular diseases) further research is needed.

Sexuality

Sexual and reproductive health care - a nice fashionable idea or a basic right

Johannes Bitzer (CH)

University Hospital Basel

Sexual and reproductive health has been acknowledged by WHO, UNESCO, UNFPA, FIGO and many national organisations as an integral part of human rights.
SRH is based on the broad biopsychosocial concept of health including physical (biological, medical) psychological (mental, interpersonal) and social (economic, cultural) elements contributing to a person s individual sexual and reproductive health.
The main components are: Health of the reproductive and sexual organs through prevention an care including STI, benign and malignant diseases etc.
Self determination of the individual s or couple s fertility and wish for a child through contraception, infertility prevention and care
Safe motherhood and health of the newborn
Sexual wellbeing through comprehensive sexual education and help for those who experience problems
Self determination of one s sexual identity and expressing one s individual sexuality through specialized services and protection against discrimination and violence.
To achieve SRH for all (leaving nobody behind) this comprehensive approach has to be become part of basic health care for the whole population. The impulses must come from the women, the health care professionals, the Scientific and Professional Societies up to the Public Health and General policies to make out of ideas a right put into practice

Sexuality

Sexuality and Pelvic floor dysfunctions

Camil Castelo-Branco (ES)

Hospital Clínic

Pelvic organ prolapse (POP) and Urinary Incontinence (UI) and its treatment may affect overall female sexuality dimensions (Biiopsychosocial): Biological (e.g. discomfort/ obstruction/dyspareunia due to POP, associated urinary/anorectal incontinence or urinary tract infection, associated comorbidities, local complications after surgery or pessary use), psychological (e.g. less attractive/sexy due to body image impairment, anxiety/fear); and social (femininity, identity, feeling old, partner-related concerns for both partnered and unpartnered women). Consequently, both sexual activity (e.g. inactivity due to POP and UI) and sexual function. Most of women with POP and UI reported coping strategies regarding both partnered and solo-sex. Therefore, health care professionals should investigate deeply on it to better understand the really impact of such a complaints on women s sexuality. Unfortunately, women s sexual life is not systematically evaluated in the clinical practice, despite the sexual assessment before and after treatments through standardized terminology and qualitative and quantitative validated instruments is recommended by the international guidelines. Frequently, conservative treatment may benefit female sexuality through the improvement of POP and UI symptoms. A multidisciplinary biopsychosocial approach within the shared decision-making process to treat UI should be offered to all affected women.

Transgenderism

Fertility for transgender persons: what can we offer?

Nathalie Chabbert-Buffet (FR), Nathalie Sermondande (FR), Emilie Moreau (FR), Sara Cristofari (FR), Nicolai Johnson (FR), Charlotte Dupont (FR), Rachel Levy (FR), Kamila Kolanska (FR)

APHP Sorbonne University

Although ignored or under estimated for a long time, parenthood projects do exist in transgender persons. The development of assisted reproduction technologies, as well as legal context evolutions now allow physicians to offer fertility preservation strategies in this specific context.

Female to male hormonal transition can induce ovulation blockade and amenorrhea because of androgens doses used. Although this is reversible after hormones discontinuation, long-term effects on fertility are still poorly known. In addition, surgical transition with hysterectomy/adnexectomy can definitely suppress fertility potential depending. Fertility preservation options theoretically rely on oocyte or ovarian tissue cryopreservation, and can be offered.

During male to female (MtF) hormonal transition, estrogens use may as well have an impact on future fertility, although this is poorly documented. In addition, surgical transition with bilateral orchiectomy definitely impairs fertility in case sperm cryopreservation has not been offered.

Depending on the country of residence, in both cases, numerous legal and regulatory obstacles can be met when cryopreserved gametes utilization is considered.

In addition to adapted technical skills, specific training to patients contact and psychological support throughout these processes is crucial.

Transgenderism

Transgender health care: ethical aspects

Fanny Poirier (FR)

Pitié-Salpêtrière Hospital, Paris, France

In France, as elsewhere, societal debates are escalating regarding the human rights of transgender individuals. Despite numerous international clinical studies over 25 years demonstrating substantial positive effects of medical care for adolescents on their psychological well-being and emphasizing the treatments' relative safety, consistent questions persist in the media regarding transgender children and adolescents' medical care. These discussions have led to proposals seeking to ban hormonal treatment until the age of 25.
This communication aims to delve into contentious propositions in contemporary transgender healthcare, particularly focusing on physiological aspects that concern healthcare providers dealing with sexual and reproductive health matters of transgender youth.
Furthermore, we present the current practice in France, especially the process of medical decision-making. Since 2013 and the creation of different consultations dedicated to supporting transgender children and adolescents, decisions regarding every medical procedure undergo a multidisciplinary consultation involving health professionals, lawyers, researchers, and user associations, going beyond individual subjective support for each child or adolescent.
Amidst societal opinions and debates, genuine ethical considerations must be addressed, notably concerning the concept of free and informed consent in children and adolescents, and the necessity for continued research.

Menopause Hormone Therapy and Beyond

Gender affirming hormonal treatment for transgender persons: the risk benefit balance

Maria Cristina Meriggiola (IT)

University Of Bologna

Gender-affirming treatment of transgender people requires a multidisciplinary approach in which gynecologists may play an important role. According to The Endocrine Society guidelines and SOC 8 WPATH 2022, gender affirming hormonal treatment (GAHT) for transgender assigned-male at birth (AMAB) include estrogens in combination with androgen-lowering medications named cyproterone acetate, spironolactone or GnRH analogs. Feminizing treatment with estrogens and antiandrogens induce the desired phenotipical changes, such as breast growth, fat redistribution in a female pattern and reduction of facial and body hair growth. GAHT for transgender assigned-female at birth (AFAB) include testosterone therapy for virilization with deepening of the voice, cessation of menses, and increases of muscle mass and facial and body hair. Young people may receive pubertal suspension, consisting of GnRH analogs, followed by GAHT if they decide to pursue this path. Options for fertility preservation should be discussed before staring GAAHT or puberty suspension. Depression, anxiety but also gender dysphoria reduce considerably following GAHT and quality of life improves. Side effects are rare but their possible occurrence should be discussed with people starting treatment for gender affirmation. Cardiovascular risk with GAHT seems unchanged among transgender AFAB but remains unclear among AMAB. GAHT related- malignancies are rare.

Transgenderism

The Importance of progesterone therapy in trans females.

Svetlana Vujovic (RS)

University of Belgrade

Belgrade Gender team initiates micronized progesterone therapy 200 mg globules at bedtime during 10 days monthly, after 6 months of initiating hormone affirming therapy therapy with estradiol valerate 6 mg and cyproterone acetate 50 mg in trans females. It is well known that progesterone is produced in cis males in Leydig cells, reticular zone of adrenal glands, glia cells, and Swan s cells of peripheral nervs. It blocks 5 alfa reductase and unables conversion od testostertone to dihydrotestosterone. Embriologically, prostate correlates with uterus and receptors for estradiol, progesterone and testosterone are present there. In testicular tissue of trans females before the operation progesterone stops additionaly spermatogenesis, decreases Leydig cell numbers and induces hyperplasia of rete testis epithelial cells.It activates p53, gene suppressor of gene promoting Bcl/2. Progesterone receptors are present on cardiomyocytes, vascular smooths muscle cells and endothelial cells.It increases gas exchanges, carbon dioxide in alveoles, improves breathing during the night and snoring is decreaxsed. Oligodendrocytes produce myelin proteins. Progesterone increases oligodendrocytes numbers and improves remyelinisation. Also, progesterone decreases C reactive protein, Interleukin 1 beta, interleukin 6, factor necrosis tumor alfa and prostatic specific antigen, inducing anti-inflammatory status. Central nervous system progesterone effects include: cognitive functions, behavioral effects, neurogenesis, myelin repair and regeneration after injury. Insulin sensitivity is improved as well as lipid metabolism during progesterone therapy in trans females, reducing akne an seborrhea and increasing hair growth. Muscle pain can be decreased. CONCLUSION: Progesterone has to be added in all progesterone deficiencies in order to prevent systemic diseases and improve quality of life.
KEY WORDS: progesterone, hormone affirming therapy, trans females.

Updates in infertility, fibroids treatments and IOTA prediction models

Value of tubal flushing in infertile women

Velja Mijatovic (NL)

Department of reproductive medicine, Amsterdam UMC, The Netherlands

This lecture focuses on the fertility-enhancing effect of tubal flushing in infertile women, its possible mechanisms and clinical implications. Since the 1950 s the fertility enhancing value of HSG with oil contrast has been debated. Six decades later, meta-analyses show that when comparing tubal flushing with oil contrast versus no intervention we see a significant increase in clinical pregnancies and life birth rates in patients with unexplained infertility. However, when comparing the evidence for tubal flushing with oil contrast versus water contrast, we do see an significant improvement in clinical pregnancy in favor of oil contrast. In addition, we observed within the H2Oil study, in the comparison oil contrast versus water contrast, an increased chance of 15% on a natural conception or a conception following IUI. Moreover, the median time to pregnancy was also reduced in favor of oil contrast. We hypothesize that the main mechanism involved is that of tubal patency improvement by flushing out debris and mucus plugs located in the proximal part of the tubes although alternative hypotheses are existing. More research is needed in clarifying the underlying fertility enhancing mechanisms involved.

Updates in infertility, fibroids treatments and IOTA prediction models

Implementation and cost effectiveness of IOTA prediction models in the Netherlands

Peggy Geomini (NL), Esther Lems (NL), Jaklien Leemans (NL), Christianne Lok (NL), Marlies Bongers (NL)

Máxima Medisch Centrum

Correctly characterizing ovarian tumors preoperatively is critical. It ensures appropriate referral of women with ovarian cancer to an oncology center, and optimizes patient cancer care and survival. By correctly recognizing benign tumors, minimal invasive treatment can be given to women with a benign disease in general hospitals, leading to reduced morbidity, fertility preservation and quick return to normal activities. To guide referral decisions, a variety of risk scoring models are available.

The International Ovarian Tumor Analysis-group (IOTA) has developed models to predict the possibility of malignancy in women with an ovarian tumor. These models have higher diagnostic accuracy in comparison with the traditionally used Risk of Malignancy Index (RMI) and are not associated with higher operating costs. The IOTA models are more sensitive but struggle with specificity, e.g. ADNEX at cutoff 10% shows specificity of 62%. Lack of specificity induces false positive test results. Women falsely referred to an oncology center may unnecessary consume theatre time in an (expensive) oncology center while having unnecessary surgery, causing significant distress for women. Available cost effectiveness analyses do not deal with the impact of pre-operative misdiagnosis on women s quality of life and disutility due to false positive and negative test results as these data are not available yet. In the ACCEPT study this knowledge gap will be closed. To determine which risk scoring model to guide referral decisions for women with an ovarian tumor, is most cost-effective in the Netherlands, the cohort data will be incorporated in a health economic analysis.

To investigate the national implementation status and current uptake of the IOTA models in the Netherlands, we performed a questionnaire study.

Overall, our study showed that the implementation uptake of the IOTA models is well established in the majority of Dutch hospitals. Correspondingly, most have a high level of confidence in the results of the IOTA models and are willing to adhere to the new guideline that recommends the use IOTA models instead of RMI. The finding that in most hospitals one or more gynaecologists have participated in an IOTA course suggests that the implementation of these models receives a high level of support and endorsement. However, there are still challenges to be addressed to achieve further improvement. A good and more accessible education strategy was cited as the most important factor for successful implementation. In addition, the national variation in referral agreements was mentioned as a potential barrier to successful implementation.

After finishing the ACCEPT study we will strive for further nationwide implementation of the most costeffective risk scoring model.

Symposia by Scientific Societies

Clinical problems in obstetrics and gynecological endocrinology
(organized by the PTEG - Polish Society of Gynecological Endocrinology)

Understanding hyperprolactinemia. New management of the old clinical problem

Anna Kostrzak (PL)

[Kostrzak]

Prolactin was purified in 1933 by Riddle and colleagues as a hormone which plays a major role in lactation. In 1928 Stricher and Greuter presented a lactogenic effect from injecting anterior pituitary extracts into castrated virgin rabbits. Prolactin (known as lactotrophin and PRL) is synthetized and secreted by lactotrophs in anterior lobe of pituitary. PRL is polypeptide hormone and is composed of 199 amino acids. The chemical structures prolactin is similar to the structure of growth hormone and placental lactogen hormone. Its secretion is pulsatile and increases with sleep, stress, food ingestion, pregnancy, chest wall stimulation, and trauma. In humans, prolactin is encoded by a single gene on chromosome 6 which consists of six exons and four introns.

The prevalence of hyperprolactinemia ranges from 9-17% in women with reproductive diseases and 17% among women with polycystic ovary syndrome. Although is one of the most common endocrinological disorders treatment still requires more studies. For ages hyperprolactinaemia remains a controversial problem.

High serum prolactin concentration inhibit secretion of gonadotropin-releasing hormone (GnRH) from the hypothalamus, thereby decreasing the secretion of gonadotropins (luteinizing hormone and follicle-stimulating hormone), and may also inhibit the action of gonadotropins on the gonads.

Patients with hyperprolactinemia do not manifest equal symptoms, except in case of presence of prolactinoma when headaches and visual field changes are common. Hyperprolactinaemic women suffer from menstrual disorders (oligomenorrhea, secondary amenorrhea) skin changes (hirsutism, acne, hair loss), infertility (primary or secondary). Hyperprolactinaemia can cause mood changes, change lipid profile in the serum blood and disturb glucose metabolism. Some patients also suffer from low mineral density (osteopenia or osteoporosis)

In women with hyperprolactinemia different forms of prolactin are presented in different percentage in the serum blood. The three different sizes of prolactin are: little prolactin the predominant form, big prolactin and big big prolactin. It appears to have a low biological activity. Presence of macroprolactin is a significant cause of misdiagnosis and inappropriate treatment in patients with hyperprolactinemia.

Clinical problems in obstetrics and gynecological endocrinology
(organized by the PTEG - Polish Society of Gynecological Endocrinology)

Premature ovarian insufficiency - fertility treatment

MichaB Kunicki (PL)

Medical University of Warsaw, I

Premature ovarian insufficiency (POI), is defined as hypergonadotropic ovarian failure occurring prior to 40 years of ag. The prevalence of Primary ovarian insufficiency (POI) is estimated to be 1 2%,.The diseases is associated with health problems including increased cardiovascular risk, osteoporosis, neurological conditions and also infertility. POI occurs due to different reasons like genetic, autoimmune diseases, and iatrogenic causes, and idiopathic .
It is estimated that up to 25% of patients with POI can ovulate, but only 5% to 10% will conceive and deliver after being diagnosed with POI without any treatment. There are limited number of therapies of infertility. Different therapeutic strategies that focus on rescuing ovarian function . The older methods compromise hormonal replacement therapy or dexamethasone in some cases with autoimmunity. Oocyte donation (OD) is the is effective, and most successful treatment for women with POI desiring pregnancy. The new often experimental methods are provided to POI women . They compromise such strategies in vitro activation, mitochondrial activation technique, stem cell and exosomes therapy, biomaterials strategies, and platelet rich plasma intra ovarian infusion.

Clinical problems in obstetrics and gynecological endocrinology
(organized by the PTEG - Polish Society of Gynecological Endocrinology)

Educational program adaptation of minimal invasive techniques LAP GYN

RafaB Stojko (PL)

Silesian Medical University

it's always about the patients
It all started with enthusiasm and the hope that we would be able to raise the standard of minimally invasive treatment in Poland to the level of Western Europe.
So we got together with a few passionate people to discuss the current state of the field, the way we were developing and what we could do.
We defined a several areas that needed to be developed in order to support and move forward with the implementation of minimally invasive techniques.
One of the basic areas was the general knowledge of Polish women and men about MIS techniques and the building of a nationwide consensus among patients, doctors, payers and regulators that this is the best approach to gynecological procedures.
so we did a nice TV and media campaign with around a 3 million recipients and 40-plus publications.
The essence of the GLP program is that the proctor works with the student over several months, closely monitoring progress and training. Each graduate undergoes, what is known as a final exam, an evaluation of his or her skills by independent proctors, in a blinded sample. The program is under the patronage of the PTGiP, and we are working on the patronage of the PTGO. All proctors are trained by the authors of the LAPCO method, British experts in minimally invasive surgery.
Surgical expertise for surgical gynecologists proved to be another area of urgent need. Therefore, the next step we took, was to implement a training programme that consisted of a virtual part in the form of remote webinars, which brilliantly ranked the participants' knowledge, and a face-to-face training path that trained the trainees in the specified minimally invasive techniques in a practical manner.
On top of that we created our own website, where people could register for face-to-face courses and where we collected all the transcripts of the webinar meetings for documentation purposes and for anyone wishing to return to the expertise provided. Such a platform is also a great way for us to communicate with the community of gynaecologists
MIS hysterectomies value at the end of 2016 in Poland was 10% (GLP start) and in the end of 2022 is 51%

Clinical problems in obstetrics and gynecological endocrinology
(organized by the PTEG - Polish Society of Gynecological Endocrinology)

GLP-1 analogs - promising new treatment in PCOS patients with metabolic consequences

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Department of Gynecological Endocrinology

Polycystic ovary syndrome (PCOS) is one of the most common endocrinopathies in women of reproductive age. It is diagnosed with presence of hyperandrogenism and menstruation disorders. PCOS patients often present comorbidities such as obesity, insulin resistance, impaired glucose metabolism, dyslipidemia, hypertension, metabolic syndrome, and an increased risk of diabetes. The first-line approach to treatment involves lifestyle modifications, including dietary adjustments and exercise. In select cases, pharmacological interventions are needed for optimal therapeutic results. Until now, the most common medication used in PCOS was metformin. Glucagon-like peptide-1 receptor agonists (GLP-1RAs) are a new therapeutic option for the metabolic management of PCOS. GLP-1 receptor agonists cause insulin release in a glucose-dependent manner, yielding clinical benefits such as heightened satiety, reduced appetite, and appetite regulation. GLP-1RAs have demonstrated efficacy in reducing HbA1C levels and promoting weight loss. Prior to initiating GLP-1RA therapy, patients should undergo screening for contraindications. The effects of treatment should be monitored using laboratory testing and body weight measurements.

Insights into Abnormal Uterine Bleeding under Contemporary Conditions
(organized by USGE - Ukrainian Society of Gynecologists Endocrinologists)

Uterine isthmocele as a cause of AUB. Diagosis and Surgical Treatment Experience Illustrated by Clinical Cases

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Context
Isthmocele is a defect of myometrium that is a result of incomplete healing after a transverse incision in the lower segment, usually after cesarean section (CS).
As a consequence abnormal uterine bleeding (AUB), dysmenorrhea, chronic pelvic pain, dyspareunia can occur. Obstetrical complications and infertility are long-term consequences of this pathology. Blood accumulation in the myometrium defect area is a common cause of both AUB and infertility. Chronic inflammation is a factor of the development of micro- and macropolyps of endometrium.

Objective
To analyze the long-term results of hysteroscopic treatment of the isthmocele.

Methods
We performed hysteroscopic treatment for symptomatic patients with isthmocele with further follow up.

Patients
28 patients 37.1±4.03 (17-45 years) with a isthmocele were included in the study. The most common symptoms in this group were pain, recurrent endometrial polyps, AUB and infertility.

Intervention
Hysteroscopic resection of the niche edges, removal of fibrous tissue, coagulation of the isthmocele bottom were performed. Indications for hysteroscopy: AUB, endometrial polyps. 22 (78.6%) had fibrous glandular polyps, 20 (71.4%) had chronic endometritis, 9 (32.1%) had adenomyosis.
Main Outcome Measure
symptom relief

Results
In 2 years of follow up were detected cessation of AUB in 24 (85.7%) patients, relief of pain in 21 (75%) patients, ongoing pain in 2 (7.1%) (reduced intensity), postmenstrual discharge in 3 (10.7%). No endometrial polyps were detected. There were 5 pregnancies: 4 deliveries and 1 miscarriage.

Conclusions
Isthmocele is a common cause of AUB, secondary infertility, chronic endometritis and pregnancy complications.
Hysteroscopic correction of isthmocele provides good treatment outcomes for AUB and dysmenorrhea.

Insights into Abnormal Uterine Bleeding under Contemporary Conditions
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Specifics of Endometrial Receptors in Women with History of Thyroid Cancer

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Context:

The issues of reproductive health of female thyroid cancer (TC) survivors is an actual topic as TC is the most common endocrine cancer, with a rapidly increasing incidence worldwide. According to the our previous study “Female papillary TC survivors are at higher risk of hyperproliferative pathology of the reproductive system» adenomyosis ranked first in the structure and was more frequently diagnosed in PTC compared with controls.

Objective:

to examine the hormonal status and expression of ER and PR of eutopic endometrium (EE) from female TC survivors with adenomyosis.

Methods:

we enrolled 10 female TC survivors with adenomyosis (I group) and 10 women with adenomyosis and without thyroid gland pathology (II group). Serum levels of LH, FSH, E2, prolactin, TSH were determined on the 3-5th day of the menstrual cycle (MC) and progesterone - on the 21st day of MC using the Atellica IM 1600 analyzer and commercial kits. EE was obtained during secretory phase using pipelle device. Expression of ER and PR were investigated on 20 formalin-fixed and paraffin-embedded tissue by immunohistochemical staining and electron microscopy.

Results:

the study of hormonal profile in patients of groups I and II did not reveal violations of hormonal homeostasis, the studied indicators were within the reference values. High expression of ER-± was detected in the endometrial glandular epithelial cells(EGECs) in 80% and 50% of samples of patients from groups I and II, respectively (@<0.05), no significant difference in the number of positive cells was found between groups. In endometrial stromal cells(ESCs), high expression of ER-± was detected in 50% of samples of patients from both groups, the number of positive cells was significantly higher in the endometrium specimens from I group (84.0 (10.5)% versus 62.2 (12.3)%, @<0.05). High expression of PR was detected in the EGECs in 90% and 75% of samples of patients from groups I and II, respectively (@<0.05), ESCs expressed PR in 100% of samples of patients from both groups. Significant difference in the number of positive cells was found between groups - 96.0 (8.4)% and 84.9 (12.6)%, @<0.05, respectively in groups I and II.

Conclusions:

Our results suggest that the EE in female TC survivors with adenomyosis has high expression of ER and PR, that may have important implications for the survival and proliferation of the EE cells. Further research is needed to optimise prevention and treatment algorithms for this group of patients.

Insights into Abnormal Uterine Bleeding under Contemporary Conditions
(organized by USGE - Ukrainian Society of Gynecologists Endocrinologists)

Advances in Minimally Invasive Surgery of Structural AUB causes

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) Shupyk National Healthcare University of Ukraine

The incidence of abnormal uterine bleeding in women has increased due to the stress of the war. The incidence of both acute and chronic AUB has increased. The PALM-COIEN classification system was used for the diagnosis of abnormal uterine bleeding.
The purpose of this study was to describe the prevalence of the causes of chronic and acute AUB among women of reproductive age, perimenopause and menopause against the background of stress during the war.
A total of 1550 women aged 25 to 65 years were examined. Prevalence of the causes of acute AUB using the PALM-COEIN classification. Structural causes AUB predominated in these patients. AUB -L was the most frequent finding in women with acute AUB accounting for 930 patients (60%) cases. AUB-M was found in 465 (30%) women, AUB-P in 155 (10%) women.
Structural causes also prevailed in women with chronic AUB, as the opportunity to be examined was reduced due to the war . AUB-M was the most common cause in perimenopausal and menopausal women.
An individualized approach was used in treatment . Minimally invasive surgery was used in the treatment.
Hysteroscopy, Hysteroresection and Hysteroscopic Endometrial Ablation were used. The trial with Two-Step Hysteroscopic Operation for Submucosal Myoma was very useful for the removal of submucosal myoma,type I-II in women with AUB-L. Chronic endometritis is a silent disease usually diagnosed on the workup in the women with AUB-L(70%). In practice, management needs to be individualised, taking into account the improvement of the woman's symptoms and quality of life.

Insights into Abnormal Uterine Bleeding under Contemporary Conditions
(organized by USGE - Ukrainian Society of Gynecologists Endocrinologists)

Management of AUB in displaced women. Summary of 16-months Experience of Russia Offense

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Kyiv Naional Taras Shevchenko university

Structure and types of AUB in displaced Ukrainian women. Summary of 18-month experience of russian aggression.

Context

AUB is a prevalent problem in all populations. Conditions of disasters and military conflicts are known to exacerbate preexisting causes of AUB, induce ovulatory dysfunction and iatrogenic AUB due to treatment limitations. In 2023 there are 5 million internally displaced persons (IDP) in Ukraine, about 60% of them are women. Strategies to limit the effects of AUB in the existing conditions need to be developed.

Objective

To assess the incidence of AUB that started after February 2022, their etiology structure, and associations of etiological groups with external factors in IDP.

Methods

The etiology of AUB in IDP was assessed with a specifically designed survey and standardized gynecological exam in this cross-sectional study.

Patient(s)

200 female IDP aged 19-51; mean age 44,5±3,23 years.

Main outcome measures

Frequency of AUB in IDP, associations of PALM-COEIN causes with weight changes, and other war-associated factors.

Results

Among 200 internally displaced women interviewed, 80 (40%) reported experiencing abnormal uterine bleeding (AUB), which is higher than the general population rate of 30%. Of the 80 women with AUB:
45% had delayed menstruation. 35% experienced heavy menstrual bleeding. 12.5% had light and scarce menstrual bleeding.
7.5% had frequent menstruation.
Specifically:
27.7% of those with delayed menstruation had PCOS. 44.4% had perimenopausal symptoms. 22.2% had uterine fibroids.
5.5% had endometriosis.
Among women with heavy menstrual bleeding:
42.8% had adenomyosis. 42.8% had uterine fibroids. 7.1% were overweight.
Regarding weight changes:
40% of the women noted weight changes. 43.75% reported weight gain up to 5 kg. 37.5% gained between 5-10 kg. 12.5% lost up to 5 kg. 6.2% lost up to 10 kg.

Conclusions

The incidence of AUB in IDP is high. Most frequent causes are ovulatory dysfunction due to weight loss and stress and interruption of continuous pharmacological treatment of concomitant pathology. These factors have to addressed in planning of medical help to IDP.

Insights into Abnormal Uterine Bleeding under Contemporary Conditions
(organized by USGE - Ukrainian Society of Gynecologists Endocrinologists)

Unscheduled uterine bleedings control in postmenopausal women on MHT

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Context

The analysis of demographic processes in the world demonstrates an increase in the life expectancy of the population and, accordingly, an increase in the number of elderly people (https://www. worldometers.info/demographics/world-demographics/], last accessed 20 Jan 2021).

According to WHO forecasts, by 2030 there will be about 1.2 billion postmenopausal women in the world, which will make up approximately one sixth of the world's population. Therefore, more and more modern women will spend the period of their social and labor activity in a hypoestrogenic state, which significantly affects not only the state of health, but also the quality of life of a woman in general.

According to statistical studies, about 85% of women suffer from menopausal disorders, which include earlier vasomotor and psychoemotional symptoms, urogenital disorders, and later metabolic disorders. As a result of a long-term decrease in the level of sex hormones, the risk of developing cardiovascular diseases, obesity, diabetes mellitus, bone loss, osteoporosis, etc. increases . It is a well-known fact that menopausal hormone therapy (MHT) is the most effective and pathogenetically justified method of correcting menopausal disorders and, together with mandatory adherence to a healthy lifestyle, is the basis of maintaining women's health in peri- and postmenopause.

Unfortunately, the actual share of women with medical indications for MHT who actually received therapy is <2% in Ukraine and < 10-23% in Europe (European Congress on Menopause and Andropause, Berlin, 2012, Morion data, sell-in, MAT 04 2021). And only 1 in 4 women takes MHT for more than 1 year, 63% take MHT for 3 months or less (Morion data, Rx test, Q4 2020 – Q3 2021, ATC G3F, G3C).

It is shown that 25-50% of women stop taking MHT due to unscheduled bleeding. But spotting during the first few months after starting MHT is relatively common and should be explained to patients in advance.

As fear of MHT can negatively affect compliance, it can be addressed through counselling and reassurance.

Within the framework of the II International Forum of Menopause Experts, held in Ukraine (Kiev, 2020), the participants emphasized the need for early initiation of therapy, developed bleeding management algorithms against the unscheduled bleedings on MHT, and discussed ways to increase women's adherence to therapy in order to effectively manage menopause symptoms.

The Advisory Board of this Forum with participation of leading Ukrainian and International experts Under the guidance of Ukrainian Society of Gynecologists Endocrinologists developed a Resolution concerning the principles of dose selection and bleeding management for MHT patients taking into account the consolidated and transformed international recommendations on MHT and the results of basic scientific research.

The Ukrainian national Unified Clinical Guideline "Menopausal and other disorders in perimenopausal period" (Kiev, June 2022) also currently allows not only to manage menopausal symptoms , but adequately detect and treat unscheduled bleedings on MHT and complies with international standards:

IMS, 2016; NICE, 2019; RANZCOG, 2020; NAMS, 2020; BMS, 2020

Results:

Unplanned or breakthrough bleeding – bleeding that occurred without a planned withdrawal of exogenous estrogen or progestagen and can be observed both with sequential and continuous MHT.

Examinations in the case of unscheduled bleeding during MHT have to firstly rule out endometrial cancer and then to find out the cause of acyclic bleeding for the possible pathogenetic and/or symptomatic therapy.

It is important to remember that the risk of developing endometrial cancer in postmenopausal women with genital tract bleeding during is significantly lower compared to women not receiving hormone therapy (7% vs 12% respectively) (Clarke MA, Long BJ, Del Mar Morillo A, Arbyn M, Bakkum-Gamez JN, Wentzensen N. Association of Endometrial Cancer Risk With Postmenopausal Bleeding in Women: A Systematic Review and Meta-analysis. JAMA Intern Med. 2018 Sep 1;178(9):1210-1222).

Tactics of diagnosis and treatment
1. Detailed anamnesis
2. Physical examination should include examination of the vulva, vagina and cervix
3. Eligibility criteria for transvaginal US:
- Any bleeding after 6 months of receiving continuous combined MHT
- The occurrence of bleeding after a period of amenorrhoea
- Any bleeding in the first 6 months if there are significant risk factors

4. Hysteroscopy eligibility criteria:
- Multiple episodes of bleeding
- Focal lesions on ultrasound
- Endometrial thickness >5 mm with continuous MHT and >7 mm with cyclic MHT
- Incomplete visualisation or fragmentation of the endometrial echo signal
- In a group with risk factors for pathology or endometrial cancer (high BMI, aggravated family history)

5. After excluding pathological changes of the endometrium and other causes of bleeding, the following steps are possible depending on the type of therapy used.
- With continuous combined MHT, bleeding during the first 6 months is generally acceptable if no other risk factors are present. But if any risk factors or bleeding after amenorrhoea or HMB more than 2 cycles occur the transvaginal ultrasound should be performed. Thickness more than 5 mm on continuous MHT should be further investigated with pipelle biopsy or hysteroscopy guided biopsy.
- In perimenopausal women, cyclic MHT is the best option
- If cyclic combined MHT is given, ideally, check endometrial thickness by transvaginal ultrasound within a week of the last progestogen tablet. If it is more than 7 mm – proceed with pipelle biopsy or hysteroscopy.

A. Cyclic MHT
1). Prolonged or heavy bleeding after withdrawal: increase dose/change progestogen type or decrease estrogen
2). Bleeding occurs at the beginning of the gestagen phase: increase dose or duration/change type of progestogen
3). Bleeding before the withdrawal period: increase the dose of estrogen
4). Irregular bleeding: change the regimen or increase the dose of progestogen
5). Painful bleeding: change in progestogen type
6). An oral progestogen can be added for combined MHT regimens containing progestogens in a combined product or LNG-IUD

B. Continuous combined MHT
1). Lower estrogen dose
2). If it is not enough for VM symtoms relief theee are two possible options:
- Switch to cyclic MHT with regular withdrawal bleedings if other options fail in women younger than 51 and with endometrium thikness less than 4-8 mm.
- Increase the dose or change the type of progestogen

Conclusions.

1. Complaints of uterine bleeding during MHT should be taken very seriously and should never be ignored
2. Discontinuation of MHT in such women can lead to the return of vasomotor symptoms, a significant deterioration in the mental state and quality of life
3. Counselling about possible risks should be carried out before starting MHT, which will allow for successful management of patients in the menopausal period
4. Management should be rational and does not require discontinuation of MHT in the absence of endometrial pathology or significant risk factors

Insights into Abnormal Uterine Bleeding under Contemporary Conditions
(organized by USGE - Ukrainian Society of Gynecologists Endocrinologists)

Menstrual Patterns in Different PCOS Phenotypes. Role in Patient-centred approach

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Context

Oligoanovulation based on the characteristics of menstrual cycles is one of the 3 Rotterdam diagnostic criteria of PCOS and is present in phenotypes A, B and D. Hyperandrogenic women with regular cycles are attributed to C-phenotype though they can be anovulatory too. Associations of menstrual irregularity with hormonal and metabolic disturbances and perspectives of ovulation restoration in different phenotypes are not studied well enough.

Objective

To assess menstrual irregularity characteristics in young PCOS women with classical and normoandrogenic phenotypes depending on BMI and number of ovulations in C-phenotype.

Methods

8-months prospective observational study.

Patients

Patients with A-phenotype (n-84; BMI>25 (n-52); BMI<25 (n-32)); D-phenotype (n- 45; BMI>25 (n-19); BMI<25 (n-26)) and 19 C-phenotype patients, aged 20 to 30 years in each group, newly diagnosed, treatment naïve, with hyperandrogenism criteria based on free androgen index.
Main outcome measures
Cycle variability (minimal, maximal and mean length of intermenstrual periods) of and number of spontaneous ovulations by ultrasound and progesterone level.

Interventions

none

Results

Cycle variability was greater in A-phenotype with BMI>25 compared to normal weight and D-phenotype, which could be explained by effect of adiposity on endometrium. D-phenotype was characterized by the longest intermenstrual intervals. The number of spontaneous ovulations was greater in normal weight normoandrogenic phenotype compared to hyperandrogenic. In C-phenotype the number of ovulatory cycles was lower compared to general population and 4 cases (21%) appeared to be anovulatory.

Conclusion

Ovulatory dysfunction manifestations differ in PCOS phenotypes, is affected by BMI and other factors that need deeper research in view of hormonal and metabolic disturbances. Normal cycle regularity does not guarantee presence of ovulation in PCOS.

Oral Presentations

Contraception

Contragestion: should we use this word in consultation?

Danielle Choucroun (LU)

The word contragestion appears in scientific literature in the 1980th, coined by french scientists. Even today, the representation of female fertility control remains binary with two stages contraception and abortion.

Aim

to evolve the representation of birth control towards one that is more accurate and consistent with anatomical, physiological and pronostic data.

Method

literature review on PubMed since 1980 with keywords contragestion, abortion, miscarriage.

Results

46 relevant articles. One article reports four stages for birth control: contraception, for example daily pill, contranidation and this term may be used with the cooper intra-uterine device, contragestion with the use of antiprogesterones and abortion. According to the literature the term contragestion refers to the temination of pregnancy, after fertilization and in the early stages following implantation. Biologically, the term abortion refers to the expulsion of a non-viable fetus, thus the term contragestion should refer to the early stages of pregnancy, when the fetus is not yet formed, knowing that 26% of pregnancies end in miscarriage, 80% of them in the first trimester.

Conclusion

we need to use accurate terms to refer to birth control. For a woman , it is not the same experience to swallow a pill when the pregnancy begins and is still at risk of spontaneous physiological termination, as it is to go to operating room to terminate a 16-week pregnancy. Women need the right terms to mentally elaborate their experience. Anatomophysiology, risks, pronostic and care are very different depending on the term of pregnancy, when the woman seeks to stop it.
There is a non-conscious access to the meaning of words which triggers emotion and shuts out anatomical evidence.
Contragestion and abortion are two different words for two different situations. We must remain scientific and objective beyond beliefs and emotion. Abortion is to remove a non-viable fetus, and that is the biological definition. If the fetus is not constituted, the word abortion is not right when the women asks for help to terminate an unwanted pregnancy. In birth control, the word contragestion reflects the anatomophysiological differences at different stages of pregnancy.

Contraception

Refusal of medical contraception in hypermodern age: does sexuality want to emancipate itself from science?

Danielle Choucroun (LU)

Context:

between 2010 and 2018 the use of oral contraception in France fell from 50% to 32% (users aged 15 to 49), between 2010 and 2021 the use of the patch and the ring fell dropped by 50% (ANSM). Some authors spoke about hormonophobia, but how can we talk about hormonophobia when 2.2 millions morning-after pills are sold each year in France? (HRA pharma) . The mornig-after pill countains up to 50 times more levonorgestrel than the daily pill.
Method: statistical inventory of the evolution of the use of hormonal contraception in France since the contraceptive crisis in 2012, review of literature on PubMed with the keywords contraception over the counter, digital contraception, menstruation app, orgasmic gap between genders. These informations are put in perspective with the effects of new information and communication techniques on perceptions and on construction of mental representations

Results:

literature review from 06/2017 to 06/2022 reports that dispensing of contraception over the counter would promote its use, reduces interruption of treatment, would reduce the risks of unwanted pregnancy and support empowerment of women and girls. Hormonal contraception is already available over the counter in many countries, including Brazil, Bulgaria, Turkey and others, with no reported adverse effects on women's health. At the same time , in the ATAWAD era (anytime-anywhere-any device), the non accessibility to something builds a negative representation of it (Younes C., Paquot T.): does the obligation of medical prescription for the daily contraception create a cognitive bias against it?

Conclusions:

hormonal contraception conceived and developed since the 1960s has been a powerful lever for women's emancipation, 60 years later its use is in free fall. This raises several questions: autonomy/digitalization: does the health care providers answer to the 21st century's shift? Orgasm gap between gender asks: if there is no pleasure, is it worth to take contraception? What about ecology and gender equality and their consequences on contraceptive behavior? Sexualities have disaffiliated from religions, will they disaffiliate from science?
Contraceptive refusal is the symptom of a social and health crisis with multiple issues: massive public access to scientific informations, ecology, gender equality, imperative of exeat from medical patriarchy. Human sexualities do not want guardianship anymore, but need education, counseling and care focused on the person.

Contraception

Medical treatment before IUD insertion trends and associations of patient characteristics in a large observational study in Europe (EURAS-LCS12)

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Context

Intrauterine devices (IUDs) are widely used long-acting reversible contraceptives with a favourable benefit-risk ratio. As the insertion procedure is associated with pain in some users, different medications can be used to proactively manage pain during IUD insertion.

Objective

To assess the frequency and key factors associated with the use of medication prior to IUD insertion.

Methods

EURAS-LCS12 is an ongoing non-interventional cohort study in ten European countries. Information is gathered from health care practitioners (HCP) and patients via questionnaires at study entry. The use and type of medication (e.g., analgesics, prostaglandins, desinfectives and parasympatholytics) administered prior to IUD insertion is documented by the inserting HCP. We determined effect sizes k (standardized mean differences and Cohen´s h) of intergroup comparisons and interpreted the results using usual thresholds: trivial (|k|<0.20), small (|k|=0.20 0.49), medium (|k|=0.50 0.79), and large (|k|e0.80).

Results

As of February 2023, 92,282 users were enrolled in the study, of which 31% received medication prior to IUD insertion. The strongest factor associated with medical treatment was gravidity. Women who received medication had less often experienced a pregnancy (49.9% vs. 78.3%

Contraception

Beneficial effects of the combined oral contraceptive estetrol/drospirenone (E4/DRSP) on blood pressure

Jean-Michel Foidart (BE), Jonathan Douxfils (BE), Mitchell D. Creinin (US), Kristina Gemzell-Danielsson (SE), Ali Kubba (GB), Ulysse Gaspard (BE)

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[Gaspard] University of Liège

Context:

Estetrol (E4), a Native Estrogen with Selective Tissue activity (NEST), has limited impact on metabolic parameters and liver proteins. Drospirenone (DRSP) is a spirolactone-derived progestogen with anti-mineralocorticoid activity associated with a favourable effect on blood pressure (BP).

Objective:

To compare the effect of E4/DRSP and existing COCs on angiotensinogen levels, aldosterone levels and BP over 6 cycles.

Methods:

We evaluated outcomes from two phase 2, open-label, randomised trials which evaluated BP at baseline and Cycle 6. Trial 1 evaluated endocrine and metabolic parameters with E4/DRSP, ethinylestradiol (EE) 30µg/levonorgestrel (LNG) 150µg, and EE 20µg/DRSP 3mg and measured aldosterone and angiotensinogen at baseline and cycle 6. Trial 2 was a dose-finding trial comparing E4/DRSP with the 4-phasic COC containing estradiol-valerate (E2V) 1-3mg/dienogest (DNG) 2-3mg. Pairwise comparisons were done using the Dwass-Steel-Critchlow-Fligner test.

Patients:

Healthy women, aged 18 35 years, body mass index 1830 kg/m2.

Interventions:

Trial 1: E4/DRSP (n=38) or EE/DRSP (n=31) in a 24/4-day regimen or EE/LNG (n=29) in a 21/7-day regimen for 6 cycles. Trial 2: E4/DRSP (n=79) in a 24/4-day regimen or E2V/DNG (n=78) in a 2/5/17/2/2-day regimen for 6 cycles.
Main outcome measures: Change from baseline to cycle 6 in systolic BP (SBP) and diastolic BP (DBP) (Trials 1 & 2) and in angiotensinogen and aldosterone plasma concentrations (Trial 1).

Results:

In trial 1, mean BP decreased with E4/DRSP (SBP -2.2 mmHg, DBP -1.1 mmHg) and EE/DRSP (SBP -1.8 mmHg, DBP -1.3 mmHg), and increased with EE/LNG (SBP +2.3 mmHg, DBP +0.4 mmHg). In trial 2, mean BP decreased with E4/DRSP (SBP -2.9 mmHg, DBP -1.0 mmHg) and increased with E2V/DNG (SBP +0.2 mmHg, DBP +1.2mmHg). Median angiotensinogen changes were significantly lower with E4/DRSP (+75%) compared to EE/LNG (+170%) or EE/DRSP (+207%), $p<0.05$. Median aldosterone changes were significantly lower with EE/LNG (-40%) than E4/DRSP (+103%) and EE/DRSP (+180%), $p<0.05$

Contraception

Beneficial effects of the combined oral contraceptive estetrol/drospirenone (E4/DRSP) in participants with high normal baseline blood pressure

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Context:

Estetrol (E4), a Native Estrogen with Selective Tissue activity (NEST), which results in minimal effects on metabolic parameters and hepatic protein synthesis. Drospirenone (DRSP) is a progestogen derived from spirolactone with anti-mineralocorticoid properties that contribute to its favorable impact on blood pressure (BP). The combination of 15 mg E4 and 3 mg DRSP represents an innovative formulation for a combined oral contraceptive (COC).

Objective:

To evaluate blood pressure (BP) changes in normotensive and high normal BP participants from two phase 3 studies evaluating E4/DRSP.

Methods:

We pooled data from two parallel, multicentre, phase 3 trials (US/Canada and Europe/Russia). Both trials measured BP at baseline and end of treatment (EoT) by 13 cycles (dropouts included). We evaluated changes in BP in participants with normal baseline BP (systolic BP [SBP] < 130 mmHg and diastolic BP [DBP] < 85 mmHg) and participants with a high normal baseline BP (SBP e 130 mmHg and/or DBP "e 85 mmHg). The changes from baseline by study and parameter were analyzed by t-test.

Patients:

3417 healthy participants aged 18 50 years (EU/RUS, n=1553) or aged 16-50 years (US/CAN, n=1864) with body mass index of 18"35 kg/m2.

Interventions:

E4 15 mg/DRSP 3 mg in a 24/4-day regimen for up to EoT.
Main outcome measures: Mean population SBP and DBP and change from baseline to EoT in participants with normal (n=3042) and high normal (n=375) baseline BP.

Results:

In normotensive participants, mean (±SD) population BPs at baseline and EoT were similar (SBP: 111.7±9.0 mmHg and 112.8±10.1

Contraception

Impact of hormonal contraception on endometrial histology in patients with Lynch Syndrome

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Context:
Hormonal contraception (HC) is a well-recognized protection against both endometrial hyperplasia and cancer in the general population. It has not been established if this is also applicable in women with Lynch syndrome (LS), a condition associated with a up to 70% lifetime risk of developing endometrial cancer.

Objective:
To compare the histology of annual endometrial biopsies obtained in patients with LS who are using HC versus non-users.

Methods:
Retrospective cohort study.

Patients:
Women 30 to 50 years of age with documented LS who are part of the Parisian registry PRED-IdF aimed at following patients with LS on an annual basis.

Intervention:
According to local guidelines, women with LS are advised to undergo an annual endometrial biopsy from the age of 30 until they agree to undergo a prophylactic hysterectomy proposed at the age of 40 (or without limit of age if they choose to keep their uterus).
Main outcome measure:
Endometrial histology of women with LS for whom the contraceptive status was known at the time of the biopsy. The Pearson Chi-square test was performed to compare the prevalence of cancer and hyperplasia in both groups.

Results:
164 endometrial biopsies were included in the study: among the 86 biopsies obtained in non-hormonal contraceptive users, 81.4% (70/86) were normal. Two cases of endometrial carcinoma (2.3%) and 6 endometrial hyperplasia without atypia were found (7.0%). Among the 78 biopsies performed in patients using HC, 78.2% (61/78) were normal. Three cases of endometrial carcinoma were diagnosed (3.8%): two in the progestin only group and one in a woman with LNG-IUS. Three endometrial hyperplasia without atypia were found (3.8%): one in a woman under combined hormonal contraception, one in a woman treated by macro-progestin, and one in a woman with LNG-IUS.

Conclusions:
This study suggests that, in women of 30 to 50 years of age with LS, the use of hormonal contraception does not seem to decrease the occurrence of endometrial hyperplasia/carcinoma on annual endometrial histology. This suggests that the physio-pathological pathway by which the endometrium transforms in subjects with LS may be different from the one known in the general population and therefore, the solely use of HC may not be seen as sufficient to overcome the risk. Accordingly, a close follow-up of the endometrium and offering prophylactic hysterectomy should remain a corner stone of the management of women with LS.

Contraception

Knowledge and Contraceptive Practices Among Postpartum Women

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Context:

A good family planning is essential for promoting maternal and child health. Knowledge of family planning is considered crucial toward the adoption of a contraceptive method. Lack of knowledge and awareness has been found to be associated with lack of contraceptive use among women.

Objective:

This study aimed to assess the knowledge and contraceptive practices among postpartum women.

Methods:

A cross-sectional study was conducted at a secondary hospital between August 2021 and December 2022. To evaluate the knowledge and contraception preferences, an anonymous survey was filled by postpartum women within the first days following delivery. Data were analyzed using SPSS 22.

Results:

A total of 356 postpartum women completed the questionnaire. The mean age of the participants was 29.8 years (range: 15-46 years). The majority were Portuguese (72.5%) and had completed at least high school education (64%). Among participants, 93% expressed the intention to initiate a contraceptive method during the postpartum period. Contraceptive pills were the preferred method for 43% of postpartum women, followed by Long-Acting Reversible Contraceptives (LARC) in 33% of cases.

Regarding knowledge about contraceptive methods, the majority (88%) considered themselves at least moderately informed. Health workers were the primary source of contraceptive information for 80% of participants. Postpartum women were able to recognize a mean of 6 out of 10 contraceptive methods, with contraceptive pills (99%) and condoms (98%) being the most recognized, while the patch (33%) was the least recognized method. In terms of effectiveness, 34% of participants identified permanent contraception as the most effective method, while 52% considered natural methods to be the least effective.

Conclusions:

This study provides valuable insights about knowledge and preferences for contraception among postpartum women, highlighting the need for education and access to different and safe contraceptive methods during this critical period.

Contraception

Do women, especially those aged 40 years and over, prefer to use continuous or only on-demand contraception? International multicenter survey (France, Russia, Algeria) by IPSOS

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Context

In France, non-use of contraception is the highest among women aged 40 years and over and the rate of voluntary abortions at this age, does not decrease over time and even, seems to increase slightly. Our hypothesis is that conventional contraceptive methods are not appropriate for some women of this age whose fertility is decreased, sexuality is generally less active and whose cardiovascular and cancer risk is higher.
On-demand contraceptive methods include male and female condoms, diaphragms, pericoital pills (when available) and spermicides. These contraceptive methods are not currently recommended for prevention of pregnancy in overall population due to their lower contraceptive effectiveness compared to modern methods of contraception. Now, given the lower risk of pregnancy during the later reproductive years, methods offering less inherent efficacy may be suitable. However, this decision must consider the health risk of a pregnancy at this age.

Objective

The IPSOS survey aims at evaluating the women s wishes regarding contraceptive methods and especially whether women, particularly those aged 40 and over, prefer to use continuous or on-demand contraception.

Method

A 10-minute online survey was taken by 900 women: 300 from France, 300 from Algeria and 300 from Russia, randomly drawn from IPSOS database in February 2023. Half of these women were aged between 18 and 39 and the other half between 40 and 50. Statistical processing was conducted on unweighted samples as the sample size (300 respondents per country) ensured results statistical robustness.

Results

68% of French women are prone to use a continuous contraception, while they account for 55% in Algeria and 50% in Russia. In contrast, 78% of Russian women are prone to use an on-demand contraception (i.e. only when they have sexual intercourses rather than daily), while they account for 63% in Algeria and 49% in France. This need for on-demand contraception must be taken into consideration.

Conclusion

This international study highlights the need for an ‘on-demand’ contraception in both age groups, particularly in women aged 40 and over, which should be given peculiar attention. An assessment of contraceptive efficacy and acceptability of on-demand contraceptive methods, specifically in women aged 40 and over should be investigated. We already have done this assessment for spermicides in women at this age with satisfactory results (Serfaty et al. doi: 10.1016/j.jogoh.2023.102616).

Contraception

Assessment of user satisfaction with Mirena® and Kyleena® levonorgestrel IUD

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Context:

The levonorgestrel (LNG) intrauterine device (IUD) is a long-acting reversible contraception; considered highly effective against unintended pregnancy. The LNG-IUD has also been used as a form of treatment for some gynecological disorders such as abnormal uterine bleeding, endometriosis, adenomyosis and endometrial hyperplasia.

Objective:

To evaluate the satisfaction of women using the LNG-IUD Mirena® and Kyleena®, describe the main adverse effects of each method and compare them.

Methods:

Cross-sectional study of women using Mirena® and Kyleena®. After approval by the Research Ethics Committee, data were collected from 190 women treated at a private medical office in Campinas, Brazil, from May 1st 2020 to December 31st 2021, which 91 were treated with Mirena®and 99 with Kyleena®. Patients were contacted via Whatsapp®platform and were able to access the Google®form link. As soon as the link was accessed, they found the project description and the free and informed consent form (ICF) and were directed to the quiz, related to: acne, aciclic pelvic pain, dispareunia,vaginal discharge, mastalgia, menorraghia and oily hair and skin. Finally,statistical analysis was performed.

Results:

After Mirena® insertion, there was a reduction in symptoms of mastalgia 31 (34%) p<0.001, dysmenorrhea 37 (40%) p<0.001 and a greater number of patients with a bleeding pattern less than 5 days (87), 94% and p <0.001; There was no worsening of the other symptoms. After the insertion of Kyleena®there was a reduction in symptoms of mastalgia(33) 34% p=0.031, dyspareunia(7) 7.1% p=0.016 and a greater number of patients with a bleeding pattern less than 5 days (86) 87.7% p<0.001; there was worsening of acne (63) 64% p=0.012, oily skin and hair (79) 81% and p=0.006 and acyclic pelvic pain (33) 34% p=0.004. Once the methods were compared, the use of 3 units or less of sanitary pads per day was higher in Kyleena® users (96) 98% p=0.055 compared to Mirena®(87) 94%, a higher rate of oiliness in the skin and hair with Kyleena® (63) 64% p=0.037 compared to Mirena®(62) 67% and fewer cases of dysmenorrhea with Mirena®(37) 40% p=0.056 in relation to Kyleena®(53) 54%. There was no difference among the other mentioned symptoms. The women showed high rate of approval with both the use of Mirena®(86) 93% and Kyleena®(91) 93% p=0.947. Conclusion:Women using Mirena® and Kyleena® showed high satisfaction with the method in use and showed reduction in several symptoms prior to using the method.

Fibroids, Endometriosis and Adenomyosis

Prolapsed atypical polypoid adenomyoma

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Context

Atypical polypoid adenomyoma (APAM) is an uncommon benign uterine tumor that typically presents with irregular vaginal bleeding in women of childbearing age. While it has the potential to undergo malignant transformation, it does not have the capacity to metastasize to other parts of the body. APAM can coexist with conditions like endometrial hyperplasia and adenocarcinoma, often resulting in misdiagnosis. It comprises irregular endometrial glands intertwined with bundles of smooth muscle fibers. Importantly, APAM carries a high risk of recurrence.

Patient

We describe a case of APAM, which was managed in a tertiary care hospital. A 21-year-old patient, virgin, without significant medical history, was addressed to our hospital for abundant vaginal bleeding and irregular vaginal bleeding and vaginal mass that was occupying the entire vagina raising the suspicion of cervical malignancy. The local examination could not be performed due to her virginity. We performed abdominal and perineal ultrasound which showed a cervical irregular vascularised tumor.
An MRI was performed that described an expansive, solid cervical nodule with small liquid areas of cervical origin.

Results

After vaginal excision the histopathology specimen revealed APAM. On follow-up so far, she is in stable condition and asymptomatic without recurrence
It has the potential of malignant transformation but does not metastasis.
Hemorrhagic cystic spaces in a prolapsed uterine tumor within the vagina should raise consideration of a diagnosis of polypoid adenomyoma.
On imaging, their features may be confused with prolapsed leiomyomas or malignancy.

Conclusions

Atypical polypoid adenomyoma is a rare uterine tumor typically found in fertile age and associated with bleeding and infertility. Among young nullipara women, conservative treatment is proposed despite the high recurrence rate and the association with endometrial cancer.

Fibroids, Endometriosis and Adenomyosis

Improving overall quality of life for uterine fibroid patients living in the USA

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Context:

Uterine fibroids affect an estimated 26 million USA reproductive-aged women by age 50, making them among the most common reproductive health conditions. Approximately 25 30% of women experience symptoms that significantly reduce quality of life, including heavy menstrual bleeding, infertility, physical activity and work/school limitations, emotional distress, body dissatisfaction, and depression/anxiety. Due to their morbidity, fibroids account for an estimated $35 billion in direct and indirect costs; more than breast, colon, and ovarian cancer combined.

Objective:

To understand the healthcare experiences of uterine fibroids patients across the continuum of care, from early symptoms through diagnosis, treatment, and management, from both provider and patient perspectives.

Methods:

We conducted 20 semi-structured interviews with fibroids patients and 14 with providers in Indiana, USA. Eligible participants were women aged 18+ who had been diagnosed with fibroids and reside within 75 miles of our two target counties and eligible providers had experience treating fibroids within Indiana. Audio-recorded interviews were transcribed verbatim and analyzed using thematic analysis techniques to identify emergent themes.

Result(s):

Women experienced myriad physical symptoms, often manifesting into psychological and sexual disturbances that infiltrated all aspects of life. Internet searches were frequently mentioned as primary information sources, and many misconceptions affected treatment decisions. Health disparities remained prominent limiting factors preventing patients from receiving quality care. Many healthcare providers advocated for greater education of patients, as well as the need for more providers in the field.

Conclusion(s):

Results offer rich insight into patient and provider experiences, including barriers and facilitators to fibroids-related decisions, behaviors, and outcomes. Our findings provide practical and actionable strategies to improve uterine fibroids care. Interventions could include better patient and provider education, collaboration between medical specialties, and affordable insurance and care for all fibroid patients. Understanding these needs allows us to find ways to translate clinical recommendations into usable practices that improve the lives of all women coping with uterine fibroids.

Fibroids, Endometriosis and Adenomyosis

Comparative assessment of expression levels of various subunits of acetylcholine nicotinic receptors in patients with ovarian endometriosis

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I.M.sechenov First Moscow State Medical University

The Aim is to identify and evaluate the level of expression of various subunits of nicotine-sensitive acetylcholine receptors (nAChR) in biopsy specimens of ovarian tissue affected by endometriosis in patients of reproductive age and compare them with the control group. Materials and methods: The study included 60 patients of reproductive age, who were divided into 2 groups. Group I consisted of patients with a morphologically verified diagnosis of ovarian endometriosis, group II was the control group. Biopsies of endometrioid ovarian cystomas and tissues of healthy ovaries and blood sera of all women included in the study were analyzed. We performed tissue biopsy maceration, RNA isolation, reverse transcription, real-time PCR, followed by comparison of the results of the expression of various nAChR subunits in samples of group 1 compared with the control group. The relative expression of the detected mRNA was calculated using the 2-%³%³ct method and normalized to 18s rRNA expression.

Results:

This study showed that the expression of certain nAChR subunits is increased in samples from patients with a verified diagnosis of ovarian endometriosis. As a result of RNA isolation, reverse transcription and real-time PCR, an increase in the expression of ±7, ±9, ±6, ±4 nAChR subunits was observed in patients in group I compared with the control group. Thus, these subunits are expressed in increased amounts to suppress the production and secretion of pro-inflammatory cytokines.

Conclusion: 0:;NG5=85. In the course of the study, a direct proportional relationship was found between an increase in the expression level of ±7, ±9, ±6, ±4 nAChR subunits and the presence of histologically verified endometrioid ovarian lesions. The results obtained indicate a significant role of ±7, ±9, ±6, ±4 nAChR subunits in the development of proliferative processes in ovarian endometriosis. Further studies may determine the prognostic value of assessing the level of expression of ±7, ±9, ±6, ±4 in the diagnosis and treatment of proliferative diseases of the female reproductive system, including ovarian endometriosis.

Fibroids, Endometriosis and Adenomyosis

The evaluation of efficacy and safety of application of ulipristal acetate in the treatment of patients with various types of uterine fibroids

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Objectives:

Nowadays there has been a steady and very intensive increase in the frequency of benign uterine fibroids. At reproductive age, uterine fibroids are detected in 40% of patients, affecting not only the quality of life of a woman, but also limiting her reproductive potential. Despite a fairly large clinical experience in the treatment of uterine fibroids, the effect of treatment is often incomplete, the disease progresses, which requires radical surgical intervention. In this regard, the search for the most accessible and highly effective methods of therapy is of great practical importance.

Aims: The aim of the study was to assess the efficiency and safety of treatment based on ulipristal acetate in patients of reproductive age diagnosed with simple or proliferating uterine fibroids.

Material and methods: A prospective randomized study of efficiency of ulipristal acetate in 150 patients with simple (group I) and proliferating (group II) uterine fibroids was conducted in the Department of Gynecology in I.M.Sechenov First Moscow State Medical University. Histological and immunohistochemical study of uterine leiomyomas were performed by the Pathology Department.

Results:

After 3 months of treatment, amenorrhea was observed in 70% of patients in group I and in 90% of patients in group II. After 3 months from the beginning of the therapy, reduction of the nodes diameter by 27% in group I and by 47% in group II was revealed. In 80% of patients in both groups, an average decrease of endometrium to 4-5 mm was found, in 10% - the thickness of the endometrium reached 8 mm and the last 10% of patients were found to increase the thickness of the endometrium to 12 - 14 mm. Ulipristal reduces the leiomyomas size not only due to the tumor cell apoptosis induction, and reduction of their proliferative and mitotic activity, but also due to angiogenesis and growth factors (VEGF, EGF, FGF-2, TGF-²1) inhibition in combination with the increased level of matrix metalloproteinases (MMP-2, -10, -12) production and their tissue inhibitors (TIMP-1, -2, -3) reduction.

Conclusion: Ulipristal causes the simultaneous negative impact on the parenchymal components, angiogenesis and extracellular matrix and leads to rapid, significant and sustained decrease in leiomyomas volume. The obtained data allow us to recommend the application of ulipristal acetate as preoperative preparation in the group of patients with simple and proliferating uterine fibroids.

Fibroids, Endometriosis and Adenomyosis

Treatment and rehabilitation of patients of reproductive age with proliferative uterine fibroids

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Study objective: Clinical and morphological features of rapidly growing myomatous nodes, and their frequent combination with hyperplastic processes of the endometrium, endometriosis and functional cystic changes in ovaries, suggests that their development is based on disorders caused by sex steroids, implemented due to cell proliferation with impaired apoptosis processes, which requires an integrated approach, both in treatment and in recovery period.

Aims: The aim of our study is to optimize the combined treatment and rehabilitation of young patients, taking into account the clinical and morphological features of uterine fibroids.

Materials and Methods:

We examined 72 patients with uterine myoma of reproductive age, from 20 to 45 years old. According to the survey data, 11 (15.2%) patients had additional signs of grade II adenomyosis; endometrial hyperplasia -14 (19.4%); external endometriosis - 6 (8.3%). Treatment was selected with the prospect of restoring reproductive function and included three main stages: Stage I (3-4 months) - a temporary reversible decrease in estradiol in the blood serum of patients, by using synthetic analogues of natural luteinizing releasing hormone; Stage II - selective uterine artery embolization (UAE) followed by myomectomy in various modifications; Stage III - hormonal rehabilitation of patients with the prospect of restoring reproductive function.

Results:

After the first stage of treatment, the patients noted: the scarcity or absence of menstruation -52(72.2%) observations, a decrease in pain - 37(51.4%) and the appearance of vegetative-vascular reactions in the form of “hot flashes”-17(23. 6%). After selective UAE, ultrasonic signs of reduced blood flow were noted as early as 2 weeks later. The features of the molecular morphological picture of the removed fibroid node were: normalization of cellular activity (proliferative index), bcl-2 and p53 apoptosis inhibitors, as well as a significant decrease in the expression of estrogen and progesterone receptors in 70.8% of cases, compared with fibroid preparations, operated women, without prior hormonal therapy and UAE-26.3%.

Conclusion: An integrated approach to the treatment and rehabilitation of young patients with rapidly growing uterine fibroids is reasonable and promising for recommendations in everyday clinical practice, which is especially important in case of combined gynecological pathologies, such as uterine fibroids, endometriosis and endometrial hyperplasiaN

Fibroids, Endometriosis and Adenomyosis

Laparoscopic surgical treatment of colorectal endometriosis

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Background.

Deep endometriosis is a relevant and complex medical and social problem of nowadays. The most common location of deep forms of endometriosis is the intestine, which occurs in 5-37% of patients. Deep endometriosis is the most aggressive form of endometriosis, and is characterized by a number of multifunctional disorders. Precise diagnosis of the extent of disease is mandatory in order for surgeons to decide the best approach for patients with colorectal endometriosis. Treatment options range from more conservative for some cases to more radical approach in others depending on the clinical indications and reproductive plans.
Purpose of the study and methods.
Choosing the best treatment option for patients wits DE symptoms who don`t want to become pregnant don`t respond to first-line conservative treatment.

Materials and methods.

We conducted a retro-prospective non-randomized study of cases of surgical treatment of 47 (100%) patients with colorectal endometriosis in the period of 2017-2022 on the basis of the University Clinic of Odessa National Medical University. The age of the patients ranged from 35 to 45 years. Clinical cases of endometriosis were confirmed by histological findings. Multimodal tactics were used in the diagnosis of endometriosis, using a potential of non-invasive and invasive methods. Evaluation of diagnostic data and choice of surgical tactics were used according to the criteria of M.Abrao.

Results and discussion.

Depending on the diagnostic data and their evaluation, the optimal approach to surgical treatment of patients with deep forms of endometriosis with clinical manifestations and doesn`t responding to conservative treatment was determined. Thus, 31 women (65.9%) underwent noninvasive organ-preserving operations - 27 of them (87%) underwent “shaving” of the endometrioid focus, and 4 (12.9%) women had disc-shaped resection of the rectal wall. In 16 women (34.1%) a circular resection of the intestine was performed with the formation of a colon anastomosis “end- to -end” with a machine stitch.

Conclusions.

The studied sample consisted of highly symptomatic women. A high prevalence of deep infiltrative endometriosis lesions was found located in the rectum and sigmoid region, and their size correlated directly with the extent of the surgical resection performed.

Fibroids, Endometriosis and Adenomyosis

Uncommon complication and clincal manifestation of multiple large uterine myomas in postmenopausal woman

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Context:

The symptomatology of the uterine myoma, the most common benign tumor of the female genital tract, depends mainly on the location, on its complications and less on the size. Almost 35% of women will be diagnosed with myomas at menopause; many clinical insignificant. The management depends on symptoms, complications, age, family planning, the desire to preserve menstrual function and ranges from expectant management, medical therapy, uterine artery embolization to surgical treatment.

Case report: We present the case of a 60 years old woman with multiple large complicated myomas. At first the patient presented to the general practitioner for difficulty when trying to bend during gardening. She also complained about abdominal pressure for several weeks. The patient was hypertensive, overweight (BMI 28) and had a history of infertility. Last gynecological exam was done at 40 years at the onset of early menopause when multiple small myomas (1-2 cm in diameter) were detected. The clinical findings and abdominal ultrasound detected pelvic and abdominal masses suggestive of large uterine myomas and the patient was referred to the gynecologist.

After pelvic and abdominal examination and a computer tomography that confirmed benign very large uterine tumors one of them with cystic degeneration, laparotomy was performed and giant uterine polyfibromatosis was found, consisting of 6 subserosal and intramural myomas, 10 to 25 cm in diameter, the largest pedunculated and complicated with necrosis and plaston involving the omentum and small bowel loops. After adhesiolysis total hysterectomy and bilateral adnexectomy was performed, peritoneal drainage was placed. Postoperative evolution was uneventful and after 5 days the pacient was discharged.

Conclusion: The particular features of the case are: the long and asymptomatic progression (over 20 years) of leiomyomas despite of early installed menopause and the discrete and non-specific symptomatology in contrast to surgical findings of severe complicated myoma.

In this case of complicated multiple large uterine leiomyomas the only treatment possible is surgical.

Fibroids, Endometriosis and Adenomyosis

The effect of surgical treatment on pain in patients with colorectal endometriosis.

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Odessa National Medical University

Context:

Deep forms of endometriosis occur in 1% of women, and according to Nezhat et al, 3-37% of women with endometriosis have intestinal damage. 40% of women with endometriosis complain of pain of varying intensity, which significantly reduces the quality of life and has a negative impact on the psycho-emotional state and social status of women.

Objective:

The aim of this study was to evaluate the effect of surgical interventions ("shaving", bowel resection with end-to-end anastomosis) on pain in women with intestinal endometriosis.

Materials and methods:

A retrospective analysis of 115 case histories of women with colorectal endometriosis who had pain and underwent radical surgical treatment in the form of "shaving" (n=90) / bowel resection with end-to-end anastomosis (n=25) at the BMC ONMedU(Ukraine, Odesa) in 2015-2019 was performed. The pain syndrome was assessed 1 year after surgery. Women completed a questionnaire. The pain syndrome was assessed on a numerical scale from 0 to 10, where 0p-no pain, 1-2p-weak, 3-5p-moderate, 6-7p- severe and 8-10p-very severe/unbearable. The women were divided into two groups depending on the type of surgical treatment: group I (bowel shaving) and group II (bowel resection with end-to-end anastomosis). Student's t-tests were used as a statistical method.

Patients:

115 women with colorectal endometriosis.

Interventions:

Surgical treatment in the form of "shaving" (n=90) / bowel resection with end-to-end anastomosis

Main Outcome Measure(s):

Assesment of pain syndrome before and after surgery.

Results:

Before surgical treatment, the distribution of women who underwent "shaving" (group I) was as follows: 5 women reported no pain (0p), 15 women described the pain as mild (1-2p), 45 women rated the pain syndrome from 3 to 5 points, which corresponded to moderate pain; 20 women rated the pain from 6 to 8 points, which corresponded to severe pain, 5 women rated the pain as unbearable (8-10p), the average value was 4.3p. In group II (bowel resection with end-to-end anastomosis), 1 woman had no pain (, 3 women had mild pain, 4 women had moderate pain, 10 women had severe pain, 7 women reported "unbearable" pain, the average value was 5.9p. After surgical treatment from group I: 20 women had no pain(0p) , 39 women rated the pain as mild (1-2p), 20 women reported moderate pain (3-5p), 9 women reported severe pain (6-8p) and 2 women reported very severe pain (8-10p), the mean value was 2.4p. Group II: 8 women - no pain (0p), 10 women - mild pain, 5 women - moderate pain, 2 women - severe pain, no woman rated the pain as unbearable, the average value was 1.8p.

The long-term results show a decrease in pain in group I (2.4 p compared to 4.3 p ($p<0.01$) and in group II (1.8 p compared to 5.9 p ($p<0.01$).

Conclusions:

Surgical treatment for colorectal endometriosis has a pronounced positive effect on the reduction or disappearance of pain in women. A decrease in the intensity of pain was observed in both groups of the study ($p<0.01$), a more pronounced decrease in the intensity/ disappearance of pain was observed in group II (bowel resection), which may be due to the radical nature of this type of surgery with a characteristic complete removal of the affected areas. However, further studies are needed, taking into account concomitant endometrioid lesions, concomitant gynaecological diseases, and specification of the pain syndrome.

Fibroids, Endometriosis and Adenomyosis

Unraveling Fertility Challenges in Adenomyosis: Insights from a Murine Model on Endometrial Receptivity Alterations

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For many years, adenomyosis was primarily associated with multiparous women over 40, as it was diagnosed through histological examination of the uterus after hysterectomy. Recent advancements in imaging techniques have led to an increased diagnosis of the disease in young fertile-age women. The rising diagnosis rates in younger women underscore the importance of understanding the mechanisms behind adenomyosis development and proposing new treatments to address symptoms including fertility outcomes.
Our aim was to summarize potential pathogenic mechanisms by which adenomyosis, in the absence of associated endometriosis, negatively affects pregnancy. We assessed estrous cycle, folliculogenesis, and the expression of genes related to endometrial receptivity and progesterone resistance using a murine model of induced adenomyosis.
To achieve fertility outcome analysis, we used a murine model of adenomyosis by orally administering tamoxifen or vehicle to CD1 mice for 4 consecutive days starting from birth. Estrous cycles were analyzed at two months of age by performing vaginal smears over a 14-day period for all mice. Folliculogenesis was assessed using multiple ovarian sections. Concurrently, other mice were mated with proven fertile males for three months to evaluate fertility outcomes. Endometrial receptivity and progesterone resistance were evaluated through PCR and immunostaining analysis. Mice were euthanized either one or three months after tamoxifen treatment.
Our results indicate that mice with adenomyosis exhibited clear disruptions in estrous cycles and folliculogenesis, implying potential impacts on fertility outcomes. This hypothesis was confirmed through mating experiments, which revealed a reduction in both the number of litters and litter size among mice with adenomyosis. To explore whether this low pregnancy rate may be also result from implantation failure or progesterone resistance, we analyzed the uterine expression of HoxA10, Integrin beta3, LIF, and PGR. In mice with adenomyosis, we observed reduced HoxA10 and Integrin beta3 as well as decreased PGR expression, suggesting that impaired endometrial receptivity and unresponsiveness to progesterone are contributing to adenomyosis-related infertility.
Collectively, our results suggest that adenomyosis impacts fertility through the dysregulation of estrous cycles and folliculogenesis, as well as progesterone resistance and a decrease in endometrial receptivity.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

The impact of Aurora kinase C genetic variations on females: From infertility to tumourigenicity of epithelial cells

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Medical University Of SFAX

Context

Aurora kinases (AURKs) are serine/threonine kinases essential for the onset and progression of mitosis. They have been shown to interact with DNA repair mechanisms and other cell cycle regulators. AURKs seem to be promising prognostic factors for epithelial ovarian cancer among other cancers and could be novel therapeutic targets. Aurora Kinase C (AURK) variants are associated in males with spermatogenic failure 5 and male infertility with spermatogenesis defects. In females, whereas hypothetic subfertility effect of AURKC defects seem to be subtle, a relationship with reproduction failure and fetal development disorders has been demonstrated.

Objective

We aim through this review to display the impact of Aurora kinase C genetic variations on females from infertility to tumourigenicity of epithelial cells.

Methods

We comprehensively review the scientific literature using Pubmed database and other search platforms such as Google scholar to state the role of Aurora kinase C genetic variations on females.

Results

Our bibliographic review revealed that, according to recent studies, the oncogenic role of meiosis-specific Aurora kinase C in mitotic cells is revealed. Aberrant expression in somatic cells has an oncogenic potential and over-expression of AURKC is a hallmark of many cancers such as colorectal cancers, thyroid carcinoma, cervical cancer, etc & In fact, aberrantly expressed AURKC increases the proliferation, transformation and migration of cancer cells and enhances the transformation and tumourigenicity of epithelial cells. Furthermore, some polymorphisms and genetic variants of AURKC were associated to an increased risk of cancers such as gastric cancer. In contrast, some AURKC polymorphisms reduce the risk of cancers such as in glioblastoma. Moreover, AURKC genetic variations and expression variations have been recently related gestational age and severe early onset fetal growth restriction.

Conclusions

Our understanding of the role of AURKC in human females fertility and tumourigenesis as well as a potential relationship through the development/homeostasis spectrum need further delineation at this genomic and post-genomic era. In fact, Ongoing studies of normal AURKC functions in meiotic cells are critical to improving our understanding of the role of aberrant expression in cancer as said Suzanne M. Quartuccio from USA.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Exploring the role of salon professionals in identifying sex trafficking and violence victims in the USA

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Purdue University

Context:

Sex trafficking victims often have touchpoints with salons for waxing, styling, and other body modification services required by traffickers. Recently, some regions in the United States have administered laws requiring salon professionals to receive intimate partner violence-related training; however, no state, to date, requires training on identifying sex trafficking. During the pandemic shutdown, some salon professionals sought virtual continuing education opportunities.

Objective:

This study aimed to understand how salon professionals have witnessed evidence of violence, including intimate partner violence and sex trafficking, in the workplace in Indiana, USA.

Methods:

In-depth interviews were conducted with salon professionals (n = 10) and law enforcement professionals/policymakers (n = 5) from October 2021 February 2022. Content and thematic analysis techniques were used for data analysis. A statewide web-based survey in Indiana was also administered (n=405) in April - May 2023.

Results:

Few salon professionals were trained to identify and intervene. Often, they responded to suspected violence by talking with the client, sharing concerns with salon leadership, directly intervening on the client s behalf, or contacting the police. Law enforcement and salon professionals had suggestions about improving salon professionals recognition of and response to violence, including training on victim-focused resources, creating a safe environment, and building relationships with law enforcement. Survey results revealed that salon professionals want a collaborative training effort presented by state licensing agencies (n=188; 46.1%), policymakers (n=186; n=45.65), and community partners (n=147; 36%) emphasized by real-world experiences and stories from law enforcement (n=201; 49.3%) and survivors of IPV or sex trafficking (n=118; 28.9%).

Conclusions:

One-on-one salon services may provide a unique opportunity to intervene and identify victims of sex trafficking, especially when empowered through additional training and collaborative partnerships with community-oriented policing initiates. Implementing training and community-based initiatives could aid salon professionals in gaining greater confidence in knowing what to do when serving a client who is a victim of intimate partner violence or sex trafficking. USA-based findings could guide European countries in designing and implementing similar approaches.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Multi-omics Investigation Reveals Cancer-Associated Fibroblast-Secreted FGF7 as an Ovarian Cancer Progression Promoter through HIF-1±/EMT Modulation

Songwei Feng (CN)

Southeast university

Context:

Ovarian cancer (OC) is a highly aggressive malignancy with limited treatment options. Recent studies have focused on understanding the role of cancer-associated fibroblasts (CAFs) in OC progression.

Objective:

The objective of this study was to investigate the potential oncogenic role of fibroblast growth factor 7 (FGF7) derived from CAFs in OC and elucidate its mechanism of action.

Methods:

Machine learning algorithms were utilized to analyze large-scale bulk transcriptomic datasets and identify FGF7 as a potential oncogenic factor. Expression levels of FGF7 were compared between CAFs, OC tissues, normal fibroblasts (NFs), and non-cancerous tissues. Various experimental techniques, including single-cell transcriptome analysis and in vitro experiments, were employed to investigate the interaction between FGF7 and OC cells, as well as the downstream signaling pathways involved.

Patient(s):

Samples from OC patients were analyzed in this study.

Intervention(s):

The intervention in this study involved investigating the effects of CAFs-derived FGF7 on OC cell proliferation, migration, and invasion. Additionally, the FGF7/HIF-1±/EMT axis was targeted using neutralizing FGF7 in the medium or inhibiting HIF-1± signaling.

Main Outcome Measure(s):

The main outcome measures were the expression levels of FGF7 in different cell types and tissues, as well as the effects of FGF7 on OC cell behavior, including proliferation, migration, and invasion. The expression levels of key markers associated with epithelial-mesenchymal transition (EMT) were also examined.

Result(s): FGF7 expression was significantly elevated in CAFs and OC tissues compared to NFs and non-cancerous tissues, respectively. Higher FGF7 levels were associated with advanced tumor stage, vascular invasion, and poor prognosis. Experimental results demonstrated that CAFs-derived FGF7 enhanced OC cell proliferation, migration, and invasion. Mechanistic investigations revealed that FGF7 inhibited the degradation of hypoxia-inducible factor 1 alpha (HIF-1±) under normoxia, leading to the activation of EMT-related transcription factors and down-regulation of epithelial markers.

Conclusions:

This study suggests that targeting the FGF7/HIF-1±/EMT axis may provide therapeutic opportunities for intervening in OC progression. Inhibition of FGF7 or HIF-1± signaling may be potential strategies to consider in future therapeutic interventions for OC.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Initial assessment of the results of preimplantation genetic screening (PGT-M) in patients with monogenic diseases

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Context - Preimplantation genetic testing (PGT) is an early form of prenatal genetic diagnosis where abnormal embryos are identified, and only genetically normal embryos are used for implantation. This has become an integral part of Assisted Reproductive Technology (ART) procedures.
Objective - To describe the initial results of preimplantation genetic screening (PGT-M) in patients with monogenic genetic diseases
Patient/Methods - A retrospective cohort study was conducted on 20 patients who underwent pre-embryo transfer genetic screening for monogenic disease (PGT-M) at Hanoi Andrology and Infertility Hospital from January 2020 - to May 2023.
Result: The overall average age of the study group is 31.25±3.98. For 95.0%, the reason for screening is because someone in the family has the disease. In 20 patients, the screened muscle diseases had a high rate, such as spinal muscular atrophy (25%), Duchenne muscular dystrophy (10%), and other muscle diseases due to mutations in the MTM1 and IGHMBP2 genes, and hemophilia A (15%), Hemophilia B; Kidney diseases due to mutations in the PKD1 and CFH genes (10%); other genetic diseases include congenital adrenal hyperplasia (CYP21A2), Dilated cardiomyopathy (NEXN), Hemophagocytic syndrome (STXBP2), ARC syndrome (VSP33B). A total of 380 oocytes were retrieved; the MII mature oocyte rate was 77.6%; the Fertilization rate was 92.5%; The rate of embryos created was 63.7%. There were 102 blastocysts biopsied, in which the rate of normal embryos was 36.0%; semi-heterozygous embryos were 12.0%; heterozygous embryos were 46.0%; homozygous embryos were 1.0%. Clinical outcomes: live birth (35.0%); ongoing pregnancy (30.0%); biochemical pregnancy (5.0%); not pregnant (5.0%); no embryo transfer (5.0%)

Conclusions:

PGT-M helps couples with single-gene genetic diseases have the opportunity to have healthy children. Coordination between clinicians, geneticists, and embryologists must be coordinated in diagnosing and treating patients.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Ablepharon-macrostomia syndrome a rare case report in gynaecological practice

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Patient T., 10 years old, with proven diagnosis of Ablepharon-macrostomia syndrome (AMS), was twice hospitalized in gynecological department of the Russian Children's Clinical Hospital.
Family history: a child from the 2nd pregnancy, which occurred against background of toxicosis, carriage of chronic infections (cytomegalovirus and rubella), from 2 urgent surgical births (according to maternal indications) at 38 weeks. Body weight at birth was 3450 g, body length 54 cm. The condition was severe from birth. The child was diagnosed with AMS at her place of birth.
Symptoms: multiple stigmas of dysembryogenesis and developmental anomalies (hydrocephalic shape of the skull, absence of brow ridges, eyebrows, cartilage and skin of upper and lower eyelids of both eyes, flattened nose, wide bridge of the nose, macrostomia, underdevelopment of the external and middle ears, aplasia of the nipples, absence of lanugo, dry, folded skin, amniotic navel, umbilical hernia, shortened fingers and toes, transverse groove of the palms). Mental retardation of undifferentiated complex genesis is determined. Immaturity of all parts of tongue, hyperdynamic syndrome, and secondary cardiopathy were revealed.
In 2013, patient underwent reconstructive surgery of the orbit using a free skin flap with the formation of a palpebral fissure. Patient T. s initial visit to gynecological department was associated with karyotyping at place of birth, which revealed a doubtful result of 46XY karyotype and a diagnosis of a disorder of sex development. Upon admission, she was examined by gynecologist: external genitalia were formed correctly, according to female type. There is marked depletion of mucosa with multiple spider veins. Ultrasound of pelvic organs: no pathology was detected. Study of female hormonal profile was within reference values. Based on our own examination data, it was decided to consider previously conducted karyotypic analysis with result of 46XY doubtful. Thus, repeated study was carried out. 46XX (normal female karyotype) was established; no violations of sex formation were detected. Therefore, female gender and child development according to age were established.
Conclusion
Diagnosing AMS is quite difficult due to difficult differential diagnosis. The clinical picture can be different, as in the described clinical case, which is why it is so important in doubtful cases to carry out genetic testing, which in this case is the most informative diagnostic method.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Ethic Norms In Assistive Reproductive Technologies

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Georgian agricultural University ; Georgian-german reprodictive Clinic

Context

Rapid medical and scientific development causes a lot of discussion in society, as some people's values doubt certain aspects. This abstract will discuss all the ethical issues that surround IVF; Even though scientific transparency left little space for wrong assumptions, there are some of the topics that are still actively questioned, and need further discussion.

Objective

Ethics deals with the right choices of conduct considering all the circumstances. It deals with the distinction between what is considered right or wrong at a given time in a given culture. Medical ethics is concerned with the obligations of the doctors and the hospital to the patient along with other health professionals and society. it must be noticed that it is a variable and applies through the present. IVF & other assistive reproductive technologies, opens doors for the people who struggle with infertility.

Anyone who wants to be a parent, can give themselves a chance for it.

all of these opportunities, cause some uncertainties and ethical problems. we are going to discuss below few of them, including age limit; one-sex or single parent topic; social freezing of own biomaterial and etc.

Methods

Observations were made on already published papers regarding it, plus analyzed overall Georgian people up-to-date view .

Patients

anyone who struggles infertility and people around them

Age limit

when are you too old to become a parent? who dictates when I should be ready or not to become a parent? Even though there is no written rule of age limit, still people are suppressed by the society.

Same sex and single parent

should i be restricted to have a child, just because of love that doesn't fit in certain people's eyes? wouldn't i make a good parent just because i didn't find partner at all? does having a woman-man parents defines that child will raise in safe environment? unfortunately, society wins this battle, and a lot of countries don't give access to IVF for them. for example, Georgia restricts one-sex marriages, and they have to hide or seek help in other countries.

Social freezing

cryopreserving biomaterial is a way to preserve own fertility for the right times. ethical issues occur when person dies; who decides what to do with biomaterial that is left? can it be used by family members without ones agreement?

Conclusion

as we saw above a lot misconceptions and doubts surround ART. Medicine needs to adjust to modern ethical principles, that will always play big role.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Quality of life inwomen with Turner Syndrome

Michael Yafi (US)

Background:
Turner syndrome affects women significantly because of the high prevalence of short stature and infertility.
During childhood, short stature is the most common feature of Turner Syndrome (TS). Growth hormone (GH) therapy in TS has been shown to improve final height. The effect of improving the quality of life (QOL) by improving the final height on short children in general and girls with TS, in particular, has been controversial. Women with TS may have other TS-related comorbidities that may affect their QOL.
Objectives
1. To determine whether use of GH therapy in TS women affected the QOL
2. To determine if improvement in QOL scores (post-treatment) is due to increased height or change in social behavior, increased education, fertility, or having children.
Method
400 surveys were mailed out to members of TS Society in the USA. The survey included questions about the history of GH therapy, height, income, education, marital status, having own or adopted children, and the quality of life index developed by Ferrans and Powers to evaluate:
1-Health and functioning
2-Social and economics
3-Psychological and spiritual life
4-Family status
Results
- 174 (43.5%) surveys were returned.
- 48 (27.6%) were GH treated while 126 (72.4%) were untreated.
- No difference between the treated versus non-treated groups.
-Overall satisfaction was not significantly different before and after GH treatment.
- Overall satisfaction was not significantly different with marital and family status.
-Some observational outcomes of well-being were related to physical strength, appearance, ability to make friends, and obtaining a higher income.
Conclusion
Several studies about children treated with GH have shown no significant improvement in QOL. This study about TS women has led to the same conclusion. Improving final height in girls with TS allows them to attain better functioning in daily activities. The GGH-treated group was younger than the non-treated group reflecting the natural history of GH use in TS. Future studies are warranted to help understand the effect of GGH-related height gain on QOL by reevaluating different generations of TS women.

Genetics, Genomics, Ethics and Abnormal Uterine bleeding

Elucidating Intratumoral Heterogeneity in Ovarian Cancer via Transcriptomic Analysis of the PI3K/AKT/mTOR Pathway

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Context:

Ovarian cancer (OC) is a highly heterogeneous disease with diverse clinical presentations and outcomes. The intra-tumoral heterogeneity of OC and the intricate crosstalk between the PI3K/AKT/mTOR pathway and other molecular pathways in this context pose a significant challenge to our understanding of the disease.

Objective:

The objective was to develop a machine learning-based model, which is capable of predicting the prognosis, the activation level of PI3K/AKT/mTOR pathway and tumor microenvironment (TME) of OC patients.

Methods:

Transcriptomic data from microarray datasets were included. Consensus clustering analysis was performed to partition the patients into three clusters based on the expression profiles of PI3K/AKT/mTOR pathway-related genes (PRGs). Enrichment analysis was performed to discover the enriched pathways in correlation with patients outcome. We further employed the Random Survival Forest (RSF) algorithm to construct the prognosis-predicting model. qPCR assay was performed on patients sample to observe the PRGs level.
Patients:
Twelve OC patients were included in the study.
Intervention:
No additional interventions were performed on patients. Patients OC samples were collected for qPCR assay.
Main Outcome Measures: The main outcome measures were the accuracy of the model for predicting the prognosis, PI3K pathway activation level and TME score of OC patients.

Results:

Patients were divided into three clusters with different expression profiles of PRGs, which were enriched in the TGF-², apical junction, Epithelial mesenchymal transformation (EMT), and angiogenesis pathways. Patients in cluster A demonstrated a heightened response to the PI3K inhibitor and exhibited the poorest prognosis, likely attributable to a high number of immunosuppressive cells in TME. Enrichment analysis revealed activation of the PI3K/AKT/mTOR pathway in patients with cluster A. The model constructed Random Survival Forest (RSF) using eight hub genes, which successfully distinguished high-risk patients. The prediction accuracy of PI3K level in patients ovarian samples were verified with qPCR assay.

Conclusions:

Our study proposed a machine learning-based model, which was capable of predicting the prognosis and TME score of OC patients. Our findings provide valuable insights into the molecular mechanisms driving OV and pave the way for the development of novel diagnostic and therapeutic strategies.

Gynecological Endocrinology, Adolescence, PCO and Menopause

Treatment of adolescent girls with disorder of menstrual function due to obesity

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Normalization of menstrual function in adolescent girls is a prevention of reproductive health disorders in the future, which determines the need for new methods of therapy.
The aim of the study to normalize the menstrual cycle and reduce body weight in adolescent girls with menstrual dysfunction and obesity of various degrees by developing an effective and advanced treatment complex.
Research methods: general clinical, gynecological, ultrasound, statistical analysis according to generally accepted methods of variational statistics.
Two groups were formed: the control group - 31 healthy teenage girls and the main group - 79 teenage girls with menstrual dysfunction and obesity, who were divided into two subgroups: I - 44, received the treatment developed by us, II - 35, who received traditional, generally accepted therapy.
The proposed treatment leads to a significant decrease in body mass index regardless of the degree of obesity, glucose in the second degree from 4.86 ± 0.43 mmol/l to 4.65 ± 1.1 mmol/l (@ Â 0.05) and in the third from 5.81 ± 0 ,12 mmol/l to 4.93 ± 0.7 mmol/l (@ Â 0.05), establishing a regular menstrual cycle in 90.3% with oligomenorrhea for less than two years and 79.3 % for more than two years, with traditional therapy 78.0 %, 58.9 % (@ Â 0.05).
Patients I subgroup main group are offered to add myoinositol and metformin to the complex of generally accepted therapy. Myoinositol was prescribed for 6 months.
Patients I subgroup main group received only traditional, generally accepted therapy, which included a balanced diet and controlled physical activity.
Conclusions. The improved complex of treatment leads to normalization of the menstrual cycle in 90.3%, reduction of body weight and prevention of polycystic ovary syndrome.
The obtained data indicate the high efficiency of the treatment in the case when it was started as early as possible from the moment of the onset of the disease.
BMI decreased in all patients, however, in patients I subgroup main group reliably with obesity of the second and third degree, in patients I subgroup main group only with obesity of the second degree which indicates the higher efficiency of the comprehensive treatment.
In our opinion, the decrease in the effectiveness of treatment in girls I subgroup main group with a menstrual cycle disorders duration of 2 years or more may be due to the fact that polycystic ovary syndrome begins to form in some of them as the duration of the disease increases.

Gynecological Endocrinology, Adolescence, PCO and Menopause

Longitudinal Assessment of Allopregnanolone in Saliva and Peripartum Mood

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Context:

Within the first year after childbirth, nearly 25 % of women experience elevated depressive symptoms. Peripartum depression affects 17% of previously healthy women worldwide. Allopregnanolone (ALLO) is a metabolite of progesterone, and a neuroactive steroid hormone that binds to gamma-aminobutyric acid (GABA)a receptors in the brain. Its rapid changes in concentration in the peripartum are thought to play an important role in the aetiology of depressive symptoms.

Objective:

This study aims to determine salivary ALLO changes and peripartum mood in healthy women over 12 weeks to better understand previous conflicting cross-sectional results.

Methods:

A total of N = 61 physically healthy pregnant women aged 20 40 years in their third trimester participated. The study included an online screening, a phone interview with a clinical psychologist, lab assessments at gestational weeks 34-36 and 5-7 weeks postpartum, and a self-administered home assessments from week 37 to 4 weeks postpartum.
Main Outcome Measures: Weekly saliva samples and questionnaires (EPDS, STAI, PSS) were collected during the home assessments. Salivary ALLO was analysed by a validated enzyme-linked immunosorbent assay (range: 31.2 2000 pg/mL, sensitivity < 9.5 pg/mL). Multilevel models were used for modeling longitudinal changes in ALLO concentration and mood.

Results:

During pregnancy, 16 women (26 %) showed elevated depressive symptoms (EPDS e 10) as well as 13 women (21 %) between three and seven weeks postpartum. A decline in symptoms was observed over time. ALLO concentrations at the first lab visit at 34 weeks gestation showed a high inter-individual variance, with a mean of 926.66 pg/mL (SD = 862.93, MIN = 64.96, MAX = 3495). Participants differ in their inter-individual hormone fluctuation pattern, with an overall decrease in ALLO concentration over time postpartum. MLM reveal no significant correlation between ALLO concentration and elevated depressive symptoms over time. However, participants with lower ALLO concentrations at baseline show a significantly stronger correlation with elevated depressive symptoms and ALLO over time.

Conclusions:

ALLO concentrations vary widely over the observed 12 week peripartum period, with large inter-individual differences. The significant association between low ALLO levels and depressive symptoms longitudinally suggests that ALLO may serve as a biomarker to identify women at risk for peripartum depressive symptoms.”

Gynecological Endocrinology, Adolescence, PCO and Menopause

Prediction of venous thromboembolism risk associated with combined oral contraceptives: an exploratory model

Laure Morimont (BE), Ulysse Gaspard (BE), Jean-Michel Dogné (BE), Jean-Michel Foidart (BE), Jonathan Douxfils (BE)

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Introduction and aims of the study:

Combined oral contraceptives (COCs) containing ethinylestradiol (EE) increase venous thromboembolism (VTE) risk compared to non-users. COCs with estradiol (E2) have been introduced to lower this risk. Activated protein C resistance (APC-R), a dysregulation of hemostasis, is recognized as a risk factor for VTE in COC users. The endogenous thrombin potential (ETP)-based APC-R assay is the most suitable assessment of COC-induced coagulation changes. We aimed to model ETP-based APC-R outcomes in users of various COCs and non-users and assessed the model s correlation with VTE risks observed in epidemiological studies. In addition, we intrapolated the expected VTE risk of the new COC estetrol(E4)/drospirenone on this correlation model.

Methods:

We collected ETP-based APC-R data from COC users (EE 20µg/levonorgestrel [n=28]; EE 30µg/levonorgestrel [n=36]; EE 20µg/desogestrel [n=37]; EE 30µg/desogestrel [n=7]; EE 35µg/cyproterone acetate [n=3]) and non-COC users (n=162). We created a model for the association of these ETP-based APC-R values and established VTE-associated relative risks (RRs) in published epidemiological studies. We measured the strength of the association using goodness-of-fit and Spearman s rank correlation testing. We used the model to then estimate VTE RR based on ETP-based APC-R values for EE 30µg/dienogest (n=14), E2/nomegestrol acetate (NOMAC) (n=7) and E4/drospirenone (n=32) users.

Results:

The model provided an exponential growth equation (Y=0.7038*exp(0.3391*X)) with excellent goodness-of-fit (R2=.98) and Spearman s rank correlation (Rs=1.00). Based on this model, we calculated RR estimates for EE/dienogest (3.70), E2/NOMAC (1.68), and E4/drospirenone (1.53) versus non-COC users.

Conclusion: This exploratory model strongly correlated with predicted RR estimates from published post marketing surveillance data comparing EE/dienogest and E2/NOMAC VTE risk versus non-users. The low predicted risk for E4/drospirenone fits with clinical studies results showing its low impact on hemostasis. These findings support ETP-based APC-R as a surrogate biomarker to estimate VTE risk of a particular COC.

Gynecological Endocrinology, Adolescence, PCO and Menopause

Giant Fibroadenoma in adolescence: case report

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Patient N., 13 years old, was admitted to gynecological department of Children's Clinical Hospital due to complaints of a large formation in right breast.
She was examined by gynecologist, and revealed diagnosis was vulvar dystrophy. Hereditary history is not burdened.
History of the disease: according to the girl, enlargement of the mammary gland was noted within a month. Patient went to the emergency department of emergency hospital at place of residence.
Ultrasound data of the mammary gland: entire right mammary gland is represented by solid formation of lobular structure measuring 150 × 180 mm with blood flow loci. Left mammary gland is represented by glandular tissue, no pathology was detected.
Two weeks after a puncture biopsy showed groups of cuboidal epithelial cells with signs of pronounced proliferation, fibroadenoma(?) were found in specimen.
Diagnosis and treatment: Benign neoplasm of the giant-sized right mammary gland. On the second day after the patient was admitted to the hospital, a puncture biopsy of the tumor was performed and tumor cells were obtained. Histological conclusion Ts-48/2022: this cytological picture may correspond to fibrocystic changes in benign breast tumors. Based on this, patient was indicated for planned surgery due to exclude oncological origin of the formation in scope of removal of a benign neoplasm of the mammary gland on the right. Surgical treatment: taking into account volume of formation, a formation up to 20 cm was isolated using a blunt and sharp method, which was removed from wound; additional hemostasis in area of tumor bed. A cosmetic continuous intradermal suture is applied to skin. postoperative period proceeded without complications. The patient was discharged on the fifth day of the postoperative period. On the seventh day after surgery, the result of a histological examination was obtained, confirming the diagnosis of breast fibroadenoma without signs of malignancy.
Conclusion
It is necessary to differentiate fibroadenoma from phyllodes tumor at the preoperative stage, since further management and treatment tactics differ significantly. In this regard, PTAB followed by histological examination is indicated to make a final diagnosis. The described clinical case indicates the need for regular monitoring by a gynecologist, including teenage girls. It is imperative to carry out examination, palpation and ultrasound of the mammary glands to timely detect a tumor and prevent its rapid growth.

Gynecological Endocrinology, Adolescence, PCO and Menopause

Female Sexual Dysfunction: Prevalence and Influential Factors

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Centro Hospitalar Barreiro Montijo

Context:

Female sexual dysfunction (FSD) can occur in any stage of life and can severely affect the quality of life of many women. Despite the high prevalence of FSD, women are unlikely to discuss it with their health care providers unless asked, leading to underdiagnosis and undertreatment of this condition.
Objectives: To evaluate the prevalence of FSD in a Portuguese population and what factors can influence the female sexual function.

Methods:

A cross-sectional study was conducted between 1 August and 15 September of 2023, in Portugal. Participants filled an anonymous online survey, including a demographic questionnaire and the Female Sexual Function Index (FSFI) for evaluation of sexual function. Inclusion criteria: agreeing to participate in the study, residence in Portugal and being in a heterosexual relationship. The total score FSFI and domain scores (desire, arousal, lubrification, orgasm, satisfaction and discomfort) were analyzed using SPSS and differences were regarded statistically significant at $p < 0.05$.

Results:

A total of 387 women completed the questionnaire, with 383 fulfilled the inclusion criteria. Women had a mean age of 42 years (range: 20-71 years). When asked about their satisfaction with their sex life, 75% reported being moderately satisfied or very satisfied. 9% of women reported no sexual intercourse in the past 4 weeks. Among sexually active women, the mean total FSFI score was 27.42 (range: 7.5-34.5±4.9) and 37% met the criteria for sexual dysfunction (FSFI score d 26.55). Postmenopausal participants, when compared to women in reproductive age, had a lower mean total score and also had lower mean scores across all domains, except for discomfort ($p<0.05$). Women with children or a BMI “e 25 had lower mean total score and lower mean scores for desire, arousal and satisfaction domains ($p<0.05$). In contrast, women in shorter relationships (“d10 years) had higher mean total score and higher mean scores for desire, arousal and lubrification domains ($p<0.05$).

Conclusions:

The prevalence of FSD in our population was 37%. These findings highlight the importance of addressing FSD as a significant concern for women health and quality of life. Furthermore, the results may suggest that being in menopause, having children and being at least overweight apparently affect negatively the sexual function of women.”

Gynecological Endocrinology, Adolescence, PCO and Menopause

Polycystic Ovary Syndrome: metabolic challenges and new treatment options

Daniela Pelotti (IT), Gianna Frattini (IT)

CONTEXT: there's no evidence-based research showing a connection between Polycystic Ovary Syndrome and gluten. Celiac disease affects people with PCOS syndrome and is commonly under diagnosed or misdiagnosed. When people with celiac disease or non-coeliac gluten sensitivity eat foods or use products containing gluten, their immune system responds by damaging the small intestine contributing to chronic inflammation and autoimmune diseases.
The chronic inflammatory state involves the ovary which assumes a polycystic typical aspect because it is hyperstimulated by the pituitary gland. Hyperinsulinemia, thyroid dysfunction, obesity, adrenal dysfunction, ovarian dysfunction, infertility and cardiovascular disease has been shown to be the important components of PCOS syndrome and of celiac disease. Gluten has epigenetic effects that can cause various autoimmune disorders and endocrinopathies. Gluten is the pathogenesis of PCOS syndrome.
OBJECTIVE: the objective is to test the hypothesis that Polycystic Ovary Syndrome is the final expression of a variety of metabolic and neuroendocrine perturbations caused by a chronic bowel inflammatory state in genetically predisposed people with celiac disease or the non-coeliac gluten sensitivity. The treatment is a gluten-free diet.
MATERIALS AND METHODS: we studied 350 women of reproductive age attending our specialized office, with a history of clinical PCOS and with ultrasonographically defined morphologic characteristics and 100 women with no evidence of PCOS. Patients with PCOS were found to have chronic inflammatory state and dysbiosis of the intestine due to celiac disease or the non-coeliac gluten sensitivity.
RESULTS: the 350 patients with PCOS, who strictly adhered to the gluten free diet, had disappearance or significant reduction of symptoms reported and disappearance of clinical and diagnostic evidence of pathophysiological defects of PCOS. A high-protein diet, gluten free, low-carbohydrate or low-glycemic index , improves fertility, quality of life, and determines greater reductions in insulin resistance, fibrinogen, total and high-density lipoprotein cholesterol, decreased free androgen index. CONCLUSIONS: an intestinal inflammatory state caused by gluten intolerance, can lead to a chronic ovary disturbance and PCOS syndrome. Patients with PCOS may have subclinical gluten sensitivity and they should be informed that the treatment by a gluten free diet may be the possible prevention or treatment.

Gynecological Endocrinology, Adolescence, PCO and Menopause

Efficacy and safety of fezolinetant for the treatment of moderate-to-severe vasomotor symptoms associated with menopause in women considered unsuitable for hormone therapy: the phase 3b DAYLIGHT study

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Context
Hormone therapy (HT) is an effective treatment for vasomotor symptoms (VMS) associated with menopause. However, it is not always appropriate and many women do not take HT. Therefore, well tolerated and effective nonhormonal therapies for VMS are desirable. Fezolinetant is a nonhormonal, selective neurokinin 3 receptor antagonist that is approved in the US for the treatment of moderate-to-severe VMS due to menopause.

Objective
To assess the efficacy and safety of fezolinetant for the treatment of moderate-to-severe VMS associated with menopause in women considered unsuitable for HT.

Methods
DAYLIGHT was a phase 3b, randomised, double-blind, 24-week study (NCT05033886). The women were randomised to placebo or fezolinetant (1:1) and VMS were recorded daily using an electronic diary. Primary and key secondary efficacy endpoints were analysed using mixed model for repeated measures.

Patients
Women aged ≥40 to ≤65 years with moderate-to-severe VMS who were unsuitable for HT based on: contraindications, caution (prior medical history), stoppers (lack of efficacy, side effects, or medical advice), or averse (made informed choice not to take HT after discussion with clinician).

Interventions
Fezolinetant 45 mg or placebo once daily.

Main Outcome Measures
The primary endpoint was mean change in daily VMS frequency of moderate-to-severe episodes from baseline to Week 24. Mean change in VMS severity (key secondary endpoint) and safety were also assessed.

Results
Overall, 453 women were enrolled (placebo n=226; fezolinetant n=227), including HT contraindicated (51, 11%), caution (165, 36%), stoppers (69, 15%), and averse (168, 37%). At 24 weeks, fezolinetant 45 mg significantly reduced VMS frequency (least squares [LS] mean difference: –1.93; 95% confidence interval [CI] –2.64, –1.22; p<0.001) and VMS severity (LS: –0.39; 95% CI –0.57, –0.21; p<0.001) vs placebo. Improvements vs placebo were observed as early as Week 1. Similar incidences of treatment-emergent adverse events (TEAEs; placebo: 61.1%, fezolinetant: 65.0%) and serious TEAEs (3.5%, 4.4%) were observed in both groups. Most common fezolinetant group TEAEs: COVID-19 (13.3%), headache (8.8%), and fatigue (5.8%).

Conclusions
The phase 3b DAYLIGHT study showed that fezolinetant 45 mg was efficacious and well tolerated for moderate-to-severe VMS in women considered unsuitable for HT. These results highlight the utility of fezolinetant as an effective nonhormonal treatment for those who cannot or choose not to receive HT.

Gynecological Endocrinology, Adolescence, PCO and Menopause

Vaginal flora in children and adolescents

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Women’s vaginal flora is closely related to disease. Because of differences in estrogenÿThe vaginal flora of children and adolescents differs from that of reproductive women. The diversity of vaginal flora of prepubertal girls is highÿthe dominant bacteria are anaerobic bacteriaÿand the number of lactobacilli is low. Adolescent vaginal flora has changed before menarcheÿthe dominant bacteria has converted to be lactobacilli. After menarcheÿthe composition of flora is similar to that of reproductive womenÿAs for the pathogens of vulvovaginitisÿchildren and adolescents are also different from reproductive women. Streptococcus pyogenesÿHaemophilus influenzaeÿStaphylococcus aureus and Escherichia coli are common pathogens in prepubertal patients. Candida albicans has the highest infection rate in pubertal patients. Deeply understanding the characteristics of the vaginal flora in healthy and vulvovaginitis children and adolescents is conducive to the timely detection, diagnosis and treatment of reproductive tract diseases in children and adolescents.

Gynecological Oncology

Atypical presentation of cervical cancer in a 31 year old patient

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A 31-year-old female, G3P3, with no previous history, was admitted at the emergency room with abnormal uterine haemorrhage, with subsequent anaemia (Hb 6.1g/dL). She had been diagnosed one month earlier with an internal saphenous vein thrombosis and medicated simultaneously with enoxaparin and rivaroxaban and stopped the hormonal contraception. At gynaecological observation, the vagina and the cervix had a normal appearance, however the vaginal touch revealed painful thickening of the anterior vaginal pouch, fixating the cervix. The gynaecological ultrasound identified two pelvic cystic images of large dimensions that were initially interpreted as hematosalpinx, with no other gynaecological abnormal findings. One unit of erythrocytes concentrate was transfused, and the double anticoagulation substituted for enoxaparin in therapeutic dosage, solving the uterine haemorrhage. Abdominal-pelvic CT showed bilateral iliofemoral deep vein thrombosis and bilateral psoas-iliac muscle hematomas (biggest diameters 16 and 13 cm, respectively), with no other abnormal findings. An inferior vena cava filter was placed and the dosage of enoxaparin reduced to prophylactic. Due to persistent increasing of the hematomas, drainages catheters were placed bilaterally, draining over 1L of blood.
An etiological study began and a previous HPV screening result from months earlier was found to have detected HPV 16. Endocervical curettage showed HPV-associated cervical squamous cell carcinoma. The MRI revealed that the hematomas previously described, were multiloculated adenopathic conglomerates with necrotic/haemorrhagic content. Furthermore, identified a malignant cervical tumour measuring 32 x 35 x 53 mm, with invasion of the retrovesical fat, the parametrium bilaterally and the upper third of the vagina. The cancer was staged IIIC1r. However, before the patient initiated treatment (radiation and chemotherapy), her general condition deteriorated and a new CT scan showed an increase in volume of the adenopathic collections associated to moderate bilateral hydronephrosis for compression and bone metastases. The final diagnosis was a HPV-associated cervical squamous cell carcinoma stage IVB.

Gynecological Oncology

Deciphering the Role of Cancer-Associated Fibroblasts in Ovarian Cancer: a Mendelian Randomisation-Based Study of Potential Drug Target Genes

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Background: Ovarian cancer, one of the most common gynecological malignancies, is generally associated with a poor prognosis. The tumor microenvironment (TME) plays a pivotal role in the development, progression, and metastasis of ovarian cancer. A comprehensive understanding of the cellular composition and their functions in the TME is essential for devising novel treatment strategies. However, our understanding of the TME in ovarian cancer is still limited.

Methods:

In this study, we collected and integrated single-cell sequencing datasets from 32 ovarian cancer and corresponding normal tissues. Using a single-cell analysis workflow, we identified the major cell subpopulations in the TME and compared them with those in normal tissues. Furthermore, we integrated multiple bulk RNA sequencing datasets, including TCGA-OV, comprising a total of 3226 samples. We used methods such as CIBERSORTx to assess the relationship between TME cellular composition and prognosis. Employing a Mendelian randomization analysis based on cis-eQTL, we evaluated the causal relationships between gene expression and ovarian cancer.

Results:

Through integrative analysis, we identified 13 major cell types present in ovarian cancer tissues, including CD8+ T cells, malignant cells, and fibroblasts. Analysis of TME cell proportions revealed a significant increase in the proportion of CD8+ T cells and CD4+ T cells in tumor tissues compared to normal tissues, while fibroblasts predominated in normal tissues. SMR analysis identified 132 fibroblast differentiation-related genes, which were linked to pathways such as platinum drug resistance. Further sub-group analysis of fibroblasts identified seven subgroups, with the highest TGF^2 signaling pathway activity in the MMP11+Fib subgroup. Single-cell analysis suggested that oxidative phosphorylation could be a key pathway driving fibroblast differentiation, and the ATRNL1+KCN+Fib subgroup exhibited chromosomal copy number variations. Prognostic analysis using a large sample size indicated that high infiltration of MMP11+ fibroblasts was associated with poor prognosis in ovarian cancer.

Conclusions:

This study provides the first systematic single-cell level analysis of the cellular composition and subpopulation heterogeneity of the TME in ovarian cancer. It reveals that different fibroblast subgroups are associated with drug resistance and prognosis.

Gynecological Oncology

Microbiome Changes in Women with Vaginal Conditions: Insights from YONI Vaginal Microbiome Testing

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Vaginal health is closely linked to the composition of the vaginal microbiome. Factors such as diabetes, candidiasis, menopause, antibiotic and estrogen use can disrupt or improve this delicate microbial balance, and the ones playing negative impact can potentially lead to symptomatic vaginal infections. This study aimed to comprehensively investigate the changes in the vaginal microbiome among women with varying conditions, using the innovative YONI Vaginal Microbiome test. This Swiss technology, based on Advanced Testing for Genetic Composition (ATCG Analysis), personalised the assessment of vaginal microbiota by identifying specific fungi and bacteria through a designed assay. A total of 300 women from Brazil were enrolled in the study in collaboration with the University of Sao Paulo. Those patients were present with different conditions and varying symptoms of vaginal infection, while considering antibiotic and estrogen use. Through quantitative profiling of key commensal microorganisms in the vaginal flora, this study aimed to achieve two primary objectives: first, to offer tailored insights for the selection of appropriate probiotics based on individual microbiome compositions; and second, to identify potential connections between microbiome composition and the risk of recurrent infections and infertility.

Results of the study revealed a significant microbiome transition during the peri menopausal and postmenopausal phases, characterised by a period of high microbial instability. The used test proved instrumental in capturing these dynamic shifts with precision, allowing for informed interventions.

The personalised assay would facilitate the selection of probiotics tailored to each individual's microbiome composition. This probiotic therapy approach holds promise in promoting vaginal health and restoring microbial balance, particularly among women susceptible to disruptions due to chronic conditions. In conclusion, this study shed light on the intricate interplay between vaginal health and the microbiome composition, particularly in the context of various conditions affecting women, with innovative technology, personalised approach, valuable tool for monitoring, diagnosing, and addressing disruptions in the vaginal microbiome. As women transition through different life stages, the microbiome's role becomes even more pronounced, and the findings underscore the potential benefits of personalised probiotic therapy to enhance vaginal health.

Gynecological Oncology

Estrogen promotes endometrial hyperplasia by regulating lipid and amino acid metabolism reprogramming through LXR

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Objectives: To investigate the effect of estrogen on metabolic reprogramming in endometrial hyperplasia and to study the uptake and utilization patterns of glutamine and lactate in endometrial cells by stable isotope tracer metabolic flux analysis.

Methods:

This study used metabolic flow and lipid flow technology to detect the changes of metabolism kinetics in endometrium, and used endometrial epithelial cells and renal subcapsular tumor xenografts nude mice model to verify the mechanism of ER regulating LNAA transport and LXR/RXR complex to affect endometrial cell proliferation.

Patients and Interventions: Endometrial tissues of normal proliferative endometrium (6), proliferative endometrium upon estradiol stimulation (6), endometrial hyperplasia without atypia (6) and endometrial hyperplasia with atypia (8) were collected during surgery. The use of endometrial tissue was approved by the Obstetrics and Gynecology Hospital of Fudan University s ethics board (the hospital s ethics board (NO.2021-132), Shanghai, China and consent was obtained from each patient.

Results:

The contents of amino acids associated with the tricarboxylic acid cycle were higher in the pathological tissues, especially glutamine and glutamate. In treated Ishikawa cells, the detected Glutamine all carried four or five 13C, high content ±-ketoglutaric acid was detected mainly in the form of four 13C. Increased intake of amino acids can significantly promote the proliferation of endometrial epithelial cells, and the expression of amino acid transporters is higher in endometrial lesions tissues, especially SLC1A5. LXR623 could effectively inhibit cell proliferation and promote the synthesis of triglycerides, while LXR inhibitor could promote cell proliferation. ER and LXR interacted, and the growth rate of transplanted tumor in the LXR623 group was lower than that in the control group.

Conclusions:

Estrogen promotes the metabolic reprogramming of endometrial hyperplasia tissues. Under the continuous stimulation of estrogen, hyperplastic tissues were more inclined to use glutamine as the main energy supply body. LXR agonists significantly inhibited the proliferation of endometrial epithelial cells in vitro and in vivo. The interaction between ER and LXR may be targeted to restore cell metabolic homeostasis and achieve the effect of reversing endometrial abnormal hyperplasia in future.

KEYWORDS: estrogen, endometrial hyperplasia, glutamine, liver R receptor, metabolic reprogramming.

Gynecological Oncology

Mechanism of ornithine promoting tumor metastasis by enhancing collagen synthesis and modification in ovarian cancer

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Metastasis is an important cause of death in ovarian cancer patients. Cancer cells remodel extracellular collagen, paving a high-speed channel for tumor metastasis, but the regulatory mechanism of collagen synthesis and modification has not yet been clarified. We found that ornithine deprivation caused significant differences in tumor growth patterns in 2D and 3D, and high expression of ornithine aminotransferase (OAT) transcriptionally activated by GATA3. Meanwhile, ornithine acted as an amino acid transcription factor to directly activate the promotor of COLGALT2, a critical gene for collagen glycosylation. Ornithine is suggested to locate at the hub of polyamine metabolism and collagen modification, promoting tumor metastasis. Our findings provide new insights into the pathogenesis of ovarian cancer tumor metastasis and provide new strategies for disease treatment.

Gynecological Oncology

Diagnostic Accuracy of Biomarkers and IOTA Simple Rules in Diagnosis of Ovarian Cancer

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Abstract

Objective:

To investigate whether combining International Ovarian Tumour Analysis (IOTA) Simple Rules with tumour biomarkers would improve the diagnostic accuracy for early detection of adnexal malignancies by comparison with histopathologic diagnosis of adnexal masses after the surgical intervention.

Method: A prospective cross-sectional analysis of a cohort of women with adnexal masses scheduled for surgery was conducted to evaluate the early detection of ovarian cancer by comparing biochemical and ultrasonography parameters with histopathologic diagnosis after the surgical intervention. ROC (receiver operating characteristic) curve analysis of suspected adnexal tumours was calculated in 226 women admitted for surgery to Gynaecology and Obstetrics clinic within University Clinical Center of Kosovo (UCCK)

Setting: This study was conducted from June 2020 to June 2022 in the UCCK, which is a public tertiary health care center in Prishtina, Kosovo.

Participants: 226 women aged 16-80 with suspicious adnexal masses that were referred for surgery.

Outcome measures: Primary outcome was the diagnostic accuracy of the combination of adnexal mass biomarkers and IOTA Simple Rules.

Results:

IOTA Simple Rules combined with biomarker indicators increased the diagnostic accuracy of classifying adnexal masses. The AUCs (Area Under the Curve) for the CA125, ferritin, and IOTA SR in discriminating benign from malignant or borderline adnexal masses were 0.881 (95% CI, 0.823 0.938), 0.710 (95% CI, 0.638 0.782) and 0.929 (95% CI, 0.888 0.971), respectively. Analyses of multi-measure arms determined the combination of CA125 + IOTA and CA125 + IOTA + Ferritin to be associated with the largest ROC sensitivity (AUC = 0.962 and AUC = 0.957 respectively).

Conclusions:

We found that a combination of biomarkers and IOTA Simple Rules classified adnexal masses with most accuracy. Study findings prompt additional research on reliable predictors of malignancy with the aim of refining best practices of clinical decision making in ovarian cancer cases.

Gynecological Oncology

Re-Evaluating Endometrial Cancer Screening Guidelines: A Case Series of Cancer Patients with Endometrial Stripes 4mm or Less

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Context:

Current guidelines to evaluate postmenopausal bleeding use transvaginal ultrasounds to screen patients for biopsy. Patients with an endometrial stripe (EMS) of 4 mm or less are recommended expectant management. This cutoff misses cancers and may increase healthcare disparities.

Objective:

Analyze patients with endometrial cancer that would not warrant biopsy using current imaging guidelines.

Methods:

A retrospective case-control study of known endometrial cancer patients was performed examining patient demographics, transvaginal ultrasounds, and pathology. Cases were defined as patients with an EMS of 4 mm or less; the control group consisted of all other endometrial cancer patients. Analysis was performed using descriptive statistics and qualitative review of imaging reports to identify recurrent abnormal findings.

Patients: A single-site community cancer research center in North America identified patients with endometrial cancers. Patients with pathologically confirmed endometrial cancer diagnosed from 2020 to 2023 with a transvaginal ultrasound within 6 months of diagnosis were included.

Results:

320 patients met inclusion criteria. The median EMS was 16 mm with a mean of 18.9 mm and standard deviation of 12.1 mm. 18 patients (5.6%) had an EMS of 4 mm or less; 27 patients EMS were unmeasured.

The case group (N=18) had a median age of 70; 72% identified as White, 11% Black, 6% Asian, and 6% Hispanic. 83% of cases were stage 1A or 1B and 39% had high-grade or aggressive pathology. Fibroids were reported on 50% of scans.

The control group (N=302) had a median age of 67; 75% identified as White, 19% Black, 2% Hispanic and 2% Asian. 72% were stage 1A or 1B with 32% of cases with high-grade or aggressive pathology. Fibroids seen on 43% of scans.

In the case group, 9 radiology reports noted abnormal findings including endometrial cavity fluid (N=7), endometrial masses (N=3), or findings suspicious for neoplasm (N=3).

Conclusions:

Though an EMS of 4 mm or less has a reported <1% probability of malignancy in postmenopausal vaginal bleeding, 5.6% of endometrial cancers in our population would not warrant biopsy using this cutoff. Additional imaging findings beyond the endometrial stripe should be considered when deciding on biopsy. Current screening cutoffs warrant re-evaluation considering patient characteristics including age, race, and presence of fibroids.

Gynecological Oncology

Rhabdomyoma of the bladder and clitoris: extremely rare case report

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A 1-year-old girl was noted by her mother and pediatrician to have a growing mass protruding through the vaginal introitus. The mass was not associated with any apparent discomfort, discharge, bleeding, or no evidence of infection was detected.
On examination of the infant in the hospital, a fleshy polypoid growth of 2x3x2 cm in size was noted in the region of the clitoris and bladder that was nontender to palpation.
Ultrasound of the soft tissues revealed: echographic signs of a heterogeneous ovoid formation 27E10x15 mm. Laboratory tests: without changes.
MRI of pelvic organs conclusion: an additional soft tissue formation with uneven coral-shaped clear contours is identified in the bottom area; its lower pole prolapses into the area of the mouth of the bladder. An asymmetrical thickening of the body and head of the clitoris is also determined, which in turn is deformed, as well as changes in the subcutaneous fat over the clitoral area with swelling in its structure. In general, a neoplasm of the bladder and orifice, probably of neoplastic origin, was detected.
Cystoscopy revealed: The cystoscope was passed freely through the urethra into the bladder. On the anterior wall, at 12 o’clock of the bladder neck, a pale pink, villous formation was visualized. A biopsy was performed using a resectoscope, and 2 samples were taken for histological examination. A tumor biopsy of the paraclitoral area was also performed.
According to the histological conclusion, the biopsy material from both locations is identical. Pathological changes were represented by numerous discretely located large mono-, bi- or multinucleated cells located in the hypocellular connective tissue stroma with abundant eccentric eosinophilic cytoplasm with transverse striations. Nuclear atypia was minimally expressed. There was no mitotic activity. An immunohistochemical test revealed the expression of Desmin and Myf4 (at a low quality level). Reactions with other antibodies were negative. The pathological changes were consistent with genital type rhabdomyoma.
Conclusion: Genital rhabdomyoma is a clinically and morphologically distinct subtype of extra-cardiac rhabdomyoma that almost always occurs in the vagina or vulva of young to middle-aged women. Therefore, our team firmly believes that in case of detecting such symptoms as mentioned above, a multidisciplinary approach should be applied to those patients in order to fully assess the integrity of the disease in nearby regions.

Gynecological Oncology

Tumor rupture and hemorrhagic shock: an atypical event from gynecologic carcinosarcoma

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Context
Gynecologic carcinosarcomas are uncommon and aggressive tumors, originating mostly from the uterus. This type of neoplasm is composed by 2 distinct cell populations, epithelial and mesenchymal. This tumor has a poor prognosis once it can have a fast progression and can lead to life threatening complications.
Objective
This case report is aimed to describe an atypical complication of uterine carcinosarcoma.
Case Report
A 53-year-old patient with hypertension was brough to the emergency room with severe abdominal pain localized on right iliac fossa. In physical examination was observed a mass exteriorizing from the cervix. Computed tomography (CT) was performed and described a 15cm pelvic mass with probable uterine origin. CA 125 level was 116 U/mL. Malignancy was suspected and a hysterectomy was scheduled.
Three days before the scheduled day the patient developed tachycardia, hypotension and had a hemoglobin level of 2.8d/dL.
An emergent CT was performed and it showed hemoperitoneum and the mass measured 25cm and had intra lesion necrotic areas. Considering a hemorrhagic shock, massive blood transfusion protocol was activated and the patient was brought to the operating room for emergent laparotomy. Abdominal exploration exposed a fragmented mass, adherent to the posterior uterine wall and invading the vagina. It was also observed a solution of continuity in the proximal portion of the vagina. The patient developed refractory shock and the death was declared in the operatory room.
Results
Pathological exam revealed a carcinosarcoma with extensive necrotic areas. The tumor cells were diffusely positive for vimentin. There was a strong expression of cytokeratin AE1/AE3, CAM5.2 and cytokeratin 7 restricted to the epithelial component. This cells also had weak expression of estrogen receptors.
Conclusions
Fast growing tumors, as uterine carcinosarcoma, increases the risk for imbalance between blood flow and tumor mass and can lead to extensive necrosis and hemorrhage which increases intra-tumor pressure and contributes to tumor rupture. This event can result in hemorrhagic shock and pose a medical and surgical emergency.

Gynecological Oncology

Association of gut microbiota with cervical cancer: A Bidirectional Two-sample Mendelian Randomization Study

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Context:

A large number of Mendelian randomization studies have confirmed the causal relationship between gut microbiota and a variety of cancers.However, the causal relationship between gut microbiota and cervical cancer has not been studied. Considering the susceptibility of epidemiological studies to residual confounders, we use MR method were studied.

Objective:

The aim of this study is to discuss the causal relationship between gut microbiota and cervical cancer, and to provide direction for the prevention and treatment of cervical cancer in women.

Methods:

We conducted a bidirectional two-sample Mendelian randomization study with summary data on gut microbiota obtained from the MiBioGen consortium, which is the largest meta-analysis of genome-wide association studies available (n=14306). Cervical cancer data were obtained from the Medical Research Council-Integrative Epidemiology Unit (MRC-IEU). inverse variance weighted, MR Egger, Weighted median, and Weighted mode methods were used to examine bidirectional causality between gut microbiota and cervical cancer. MR-PRESSO and MR-Egger regression were used to calculate heterogeneity and pleiotropy.

Patient(s):

Patients with cervical cancer were included in this study.

Intervention(s):

The threshold selected SNPs less than the genome-wide statistical significance threshold (5×108)to serve as IVs. The clumping process ($R2 < 0.01$ and clumping distance =10,000 kb) was conducted to assess the LD between the included SNPs, Palindromic SNPS were removed.

Main Outcome Measure(s) :At least significant differences in IVW methods were included, and there was no heterogeneity and level pleiotropy, nor was there reverse causality.

Result(s):The OR value calculated by IVW method suggested that escherichia Shigella (OR = 0.998, 95%CI: 0.996-1.000, P = 0.024), actinobacteria (OR = 0.999, 95%CI: 0.997-1.000, P = 0.042), and ruminococcaceae (OR = 0.997, 95%CI: 0.994-1.000, P = 0.045) had protective effect on CC. No reverse causality was shown, and no significant heterogeneity or horizontal pleiotropy was found.

Conclusions:

Escheerichia shigella, actinobacteria,and ruminococcaceae had protective effect on CC. However, there are few studies on the mechanism, which is controversial.Further clinical experiments are needed to prove it.”

Gynecology

HER2 expression in BRCA mutation carriers and in high risk non mutated women

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Context:

5-7% of breast cancer (BC) are related to hereditary factors, in particular to BRCA1-2 mutations. BC in BRCA1 mutated patients is frequently triple-negative, rarely expressing HER2 or hormone receptors; BC in BRCA2 mutated patients are mostly luminal B, with hormone receptor expression similar to that of sporadic BC, but with lower HER2 expression than the latter. HER2 expression has historically been defined in terms of positivity (IHC 3+, ICH 2+ FISH positive) or negativity (IHC 0+, IHC 1+, IHC 2+ FISH negative); however, in recent years a new category, HER2 low (IHC 1+, IHC 2+ FISH negative), whose expression has not yet been studied in the BRCA mutated population, has been defined.
Objective : analyze the expression of HER2 in BC among BRCA mutated patients and high risk patients negative for BRCA mutation. The study will also investigate the clinicopathological features and clinical outcome of HER2 low BC in relation to the presence or absence of BRCA mutation.

Methods:

a retrospective study on 159 patients (179 BC)
Patients : all patients were included in the clinical criteria, by individual and/or family history, to undergo genetic testing to detect BRCA1 and 2 gene mutations through the National Health System.

Results:

BRCA mutated patients, compared with non-mutated patients, more commonly develop triple-negative BC ($p = 0.034$); HER2-positive tumors are less frequent in the mutated population ($p = 0.034$).
The BRCA1 population, compared with BRCA2, develops BC earlier ($p = 0.018$). BC in BRCA1 mutated patients is more frequently triple negative than those of BRCA2 patients ($p = 0.012$).
The BRCA2 population, compared with BRCA1, expresses estrogen receptors more frequently ($p<0.001$) and the predominant phenotype is Luminal B HER2 low ($p=0.012$).
HER2 low expression is higher in BRCA2 mutated patients, and progressively lower in patients without BRCA mutation ($p=0.05$) and in BRCA1 patients ($p=0.006$), where expression is the lowest in overall.
HER2 low BC, compared with HER2 zero, express hormone receptors more frequently ($p < 0.001$) and are characterized by a lower histological grade ($p = 0.018$).
In BRCA1 mutated, hormone-sensitive BC occur later in age ($p = 0.049$), while BC with high Ki67 values affect younger patients ($p = 0.015$).

Conclusions:

the significant differences that were demonstrated in the examined population represent an important baseline for further research and new studies in larger population samples.

Gynecology

The clinical features and body composition of premature ovarian insufficiency patients

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Objective:

The incidence of premature ovarian insufficiency (POI) has been increasing in recent years.We aimed to observe and analyze the clinical features and body composition of POI patients.

Methods:

A total of 124 patients diagnosed with POI in the gynecological endocrinology clinic of our hospital from July 2021 to July 2023 were collected as the POI group, and 240 women of childbearing age with normal ovarian function who underwent physical examination in our hospital during the same period were collected as the control group. The clinical characteristics of patients with POI were summarized, and the related indexes of body composition were compared with those of the control group. Participants had body composition assessed with bioelectrical impedance analysis (BIA) devices. And the BMD was evaluated by a dual-energy X-ray absorptiometry (DXA) technique was measured at the lumbar spine (L1 L4) and femoral neck. According to most recent guidelines, a T-score of >1.0 is rated as normal, from “1.0 to “2.5 as osteopenia and below “2.5 as osteoporosis.

Results:

The mean age of diagnosis of POI patients was 32.09 years, the course of disease was 2.76 years, and the mean level of FSH was 79.64 mIU/ml. There were 73 cases (58.87%) without giving birth and 51 cases (41.13%) already have given birth. Bone mineral density (BMD) report was missing in 2 cases, BMD was normal in 45 cases (36.89%), osteopenia in 60 cases (49.18%), and osteoporosis in 17 cases (13.93%). Compared to the control group, body weight, fat free mass (FFM) and body mass index (BMI) of the POI group were (55.49±7.83) kg, (38.57±4.59) kg and (21.18±2.50) kg/m2, respectively, less than the control group (57.58±6.66) kg, (40.27±3.94) kg, (21.87±2.17) kg/m2. Muscle mass (36.25±4.16) kg, skeletal muscle (20.69±2.60) kg, total body water (28.21±3.30) L, protein (7.51±0.87) kg, inorganic salt (2.72±0.34) kg, basal metabolic rate (1202.14±95.22) kcal and bone mineral content (2.26±0.28) kg were all less than the control group (37.78 + 3.78) kg, (21.78-2.40) kg, (29.46-2.84) L, (7.85-0.76) kg, (3.04-1.46) kg, (1241.64-81.79) kcal, (2.43-0.24) kg. There were no significant differences in waist-to-hip ratio, fat mass (FM), body fat percent (BF%) and fat distribution between POI and control group.

Conclusion: POI patients have low body mass, muscle mass and basal metabolic rate. Body composition analysis is very important for assessing the physical condition of POI patients.”

Gynecology

Potential of non-invasive Er:YAG SMOOTH® laser and High-Intensity Tesla Magnetic Stimulation (HITS®) treatment of urinary incontinence in women

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Introduction: Since 2015 great number of clinical studies have shown the advantages of different energy-based devices (EBD) for the treatment of (stress) urinary incontinence (S(UI) and genitourinary syndrome of menopause (GSM). Most studies have referred to the use of nonablative Er:YAG SMOOTH® laser for the treatment of SUI and mixed urinary incontinence (MUI), and both Er:YAG and CO2 lasers in the treatment of GSM.
Methods and results: Head-to-head studies showed that Er:YAG SMOOTH® laser improves urinary incontinence in women as effectively as the tension-free vaginal tape (TVT) and transobturator tape (TOT) procedures. For patients with mixed urinary incontinence (MUI), some in the TVT and TOT groups showed exacerbation. However, all patients in the laser therapy group tended to improve. Vaginal erbium laser (VEL) safely and effectively improve overactive bladder symptoms score (OABSS) compared to common pharmacotherapies, anticholinergics and ²3-adrenoceptor agonists, however through a different mechanism. VEL improves blood flow in the bladder, urethra, and vaginal wall reducing OABSS without adverse effects typical for medication.
The comparative study showed that Er:YAG SMOOTH® delivers an equally significant reduction in SUI, both in hysterectomized and non-hysterectomized patients.
Faraday s law of magnetic induction, whereby a magnetic field pulse induces electrical activity that depolarizes the nerves and causes selective supramaximal contraction of the pelvic floor muscles. Repeated activation of the terminal motor nerve fibers and the motor end plates will tend to build muscle strength and endurance. High-intensity Tesla magnetic stimulation (HITS!), enables fast and easy strengthening of the pelvic floor muscles without effort. The results suggest a statistically significant reduction in the frequency of urinary leakage in all three types of urinary incontinence ($p = 0.001$). Magnetic stimulation has a positive impact on reducing the symptoms of urinary incontinence and improving quality of life.
Conclusion: The combination of these two techniques may work in a synergistic manner to boost the overall effect of pelvic organ support."

Gynecology

Emergency contraception for individuals weighing 80kg or greater: a randomized trial of 30 mg ulipristal acetate and 1.5 mg or 3.0 mg levonorgestrel

Alison Edelman (US), Jeff Jensen (US), Jill Brown (US), David Archer (US), Stephanie Teal (US), Michael Thomas (US), Clint Dart (US), Diana Blithe (US)

Objective:

To compare the efficacy of three oral emergency contraception (EC) regimens [levonorgestrel (LNG) 1.5 mg and 3.0 mg and ulipristal acetate (UPA) 30 mg] in individuals weighing >80 kg used within 72 hours of unprotected intercourse.

Methods:

We enrolled healthy women aged 18-40 years old with a weight of at least 80 kg requesting EC in a multi-center, single-blind, randomized study of LNG EC 1.5 mg and 3.0 mg and UPA EC 30 mg. Key eligibility requirements included regular cycles, unprotected intercourse within 72 hours of enrollment, no use of hormonal contraception, a negative urine pregnancy test (UPT), and willingness to abstain from intercourse until next menses. Study staff directly observed EC ingestion. To assess our primary outcome of incidence of pregnancy in each treatment group, we asked participants to report results of home UPTs at 1- and 2-weeks post-treatment; if both negative and menses occurred, study participation ended. If no menses by 2-weeks post-treatment, or a positive UPT, participants returned for an in person visit with quantitative serum hCG and ultrasound. A sample size of 1200 (400 each group) was planned to provide a 95% CI within 1-2% of a point estimate of 3% pregnancy rate.
Patients: Reproductive age, at risk for pregnancy
Intervention: LNG EC 1.5 mg and 3.0 mg and UPA EC 30 mg
Main outcome measure: pregnancy

Results:

We enrolled a total of 532. Of these, 46 were not dosed or not evaluable for primary end-point, leaving an analyzable sample of 486 (157 UPA EC, 172 LNG EC 1.5 mg, 157 LNG EC 3.0 mg) with similar demographics between groups [mean age 29.6 years (5.74), BMI 37.09 kg/m2 (6.95)]. Five pregnancies occurred during the study (UPA n = 3, LNG 1.5 mg n = 1, LNG 3.0 mg n = 1); none occurred during the highest at-risk window relative to estimated day of ovulation (day of ovulation and 3 days prior). We closed the study prior to achieving our enrollment goal of 1200, as the low pregnancy rate in all groups established futility based on an interim blinded analysis.
Conclusion: Although slow enrollment limited our study power, our result of no differences in pregnancy rates between oral EC regimens among women weighing 80 kg does not support prior research demonstrating superiority of UPA over LNG, or a dose effect of LNG. Recruitment represents a major barrier to the conduct of clinical trials of EC efficacy.

Gynecology

Thermal Treatment of Vulvo-vaginal atrophy (VVA) using Novel low-energy dynamic quadripolar radiofrequency (DQRF).

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Abstract

Background : Vulvo-vaginal atrophy (VVA) or genitourinary syndrome of menopause (GSM) is a common and under-reported condition associated with decreased oestrogenisation of the vaginal tissue.

Aim: We conducted a randomized controlled study evaluating the safety and efficacy of Dynamic Quadripolar Radio-frequency (DQRF) thermal treatment for the treatment of VVA and GSM in postmenopausal women who either presented contra-indication for menopause hormone therapy or were not willing to use MHT.

Material and method:

Design: Prospective randomized open study, evaluating the effect of DQRF versus a Cetomacrogol gel (control group).

Population : Postmenopausal women (including breast cancer patients), aged 40 to 75 years old, suffering from GSM,

Procedures :

Computer randomisation occurred by a third party. Patients were assessed at baseline and after 10-12 weeks of treatment for various symptoms (severity of vulvovaginal atrophy (VVA cores), pain, dyspareunia, Ph measurement, vaginal smear maturation index, Visual Analogue Scale (VAS), vaginal health index (VHI), Female Sexual Function Index (FSFI)

Statistical analysis: Difference at baseline, after 10-12 weeks of treatment and difference in improvement, were tested between groups by two sample t test and Mann Whitney test. Power analysis: We hypothesize an effect size between the two groups of 0.6. The calculated sample size was n= 112 with a 2% type I error (taking into consideration 3 co-primary endpoints) and 80% power analysis. Unfortunately, due to the Covid19 pandemic, we had to stop the study and fewer patients were recruited. Ethical Consent: The study was approved by the Ethical committee, CE/18-11-10 / B076201938646. The study was registered at ClinicalTrials.gov Identifier: NCT03857893

Results:

Due to the Covid19 pandemic, were only able to treat 24 patients using DQRF and 24 using Cetomacrogol cream, of whom 7 patients were lost of follow-up or had to interrupt the treatment. Globally, ate the end of the study, there were no differences in changes in measured outcomes between the group of women treated with DQRF and the control group. Results were similar in the subgroup of breast cancer patients, except for the FSFI questionnaire and more specifically concerning the questions about sexual satisfaction, orgasm and desire, which were improved in women treated with DQDRF versus the cream

Conclusion:

radiofrequency treatment of vaginal atrophy was found to be safe but provided only modest benefits as compared to gel in a subgroup of breast cancer patients. The study was registered at ClinicalTrials.gov Identifier: NCT03857893

Gynecology

Bacteria and breast cancer new evidence

Daniela Pelotti (IT), Gianna Frattini (IT)

Context In a newly published study,in Oncotarget on Oct. 5, 2017,
Cleveland Clinic researchers have uncovered differences in the bacterial composition of breast tissue of healthy women vs. women with breast cancer.
In cancer research, the tumorigenic ability of pathogens is being recognized.
The Human Microbiome Project analyses, by the DNA-RNA sequencing methods, the universe of microbes that live in different habitats of our body.
The largest collection of these microorganisms is found in the gastrointestinal tract. Microbial composition reflects both genetic and lifestyle variables of the host. Microbial perturbation (dysbiosis) could contribute to the risk of developing health problems. Gut microbiota is capable of modulating estrogen serum levels.
Objective In this review, we discuss recent knowledge about the microbiome and breast cancer, identifying specific characteristics of the human microbiome that may serve to develop novel approaches for risk assessment, prevention and treatment for breast cancer.
Cancer in general is a complex disease, the precise etiology is still unknown, but the combination of genetic, epigenetic, and several environmental and lifestyle factors has been identified and strongly related.
A dysbiotic microbiota might promote malignancy by inducing genetic instability, initiating DNA damage and proliferation of the damaged progeny, alteration of the immune response, metabolic dysregulation, inflammation, higher levels of endogenous estrogens, autoimmune diseases, thyroid dysfunction and altered carbohydrate metabolism.
Methods To clarify this aspect we investigated 250 patients aged between 30 and 80 years, referred to our clinics they developed breast cancer, with stage I III, compared with 200 patients without cancer as a control.
Function thyroid, adrenal, pancreas, pituitary gland,ovary were evaluated.
An ultrasonogram of the thyroid gland, breast, gut, pancreas, liver, kidney, uterus and ovary was performed on all patients.
Results In our clinical practice, we have found the possible correlation between gut microbiome alterations to gluten exposure. Gluten appears as an endocrine disruptor and has epigenetic power, therefore it appears to be the greatest suspect in breast cancer process. A mutation affecting a tumor suppressor gene increases the probability of malignant neoplastic processes occurring. Gluten can make these genes defective due to a methylation defect. Our study promote possible key intervention strategies and the role of gluten free and low carb diet in the prevention of DNA damage, in cancer development and progression as well in regulating the human microbiome.

Gynecology

Improved Urinary Incontinence Outcomes following Vaginal Erbium Laser Treatments

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Mater Dei Hospital

Context
Urinary incontinence is closely associated with the genito-urinary syndrome of menopause (GUM). Vaginal erbium laser therapy is being increasingly advocated as one of the non-hormonal treatments of GUM.
Objective
To investigate the effect of vaginal erbium laser treatment on urinary incontinence outcomes.
Methods
A validated International Consultation on Incontinence Questionnaire 10 UI Short Version (ICIQ-10 UI) was offered to patients attending laser treatment sessions over a two-year period from 2018 to 2020.
Patients
A total of 24 patients did at least one laser treatment session, of which 14 had another subsequent session.
Interventions
The questionnaire was administered to the patients at baseline, before the first laser treatment session, as well as before any subsequent session such as to compare outcomes between baseline and first treatment session, baseline and second treatment session and outcomes between first and second session respectively. The patient s informed consent was taken at every stage and the study was carried out according to the WMA Declaration of Helsinki criteria.
The results of the questionnaires were inputted into the SPSS statistical software package version 28. The paired T-test was used to check for any statistically significant differences between baseline and following the first session, between baseline and following two sessions and between one session and two sessions respectively for each of the component questions of the ICIQ-10 questionnaire.
Main Outcome Measures
ICIQ score for component questions of urinary frequency, amount of urinary incontinence and quality of life effect as well as total ICIQ score before and after one or two laser treatment sessions.
Results
The ICIQ score decreased from 10.29+/-4.16 at baseline to 7.29+/-4.55 after two treatment sessions (p=0.023), showing statistically significant improvement. Improvement in the ICIQ score was also noted after one session, 9.54+/-4.62 to a score of 8.00+/-4.46 (p=0.012). Similar statistically significant results were obtained with the ICIQ score component questions of frequency, amount of urinary incontinence and quality of life effect.
Conclusion
Vaginal erbium laser treatment is associated with improved urinary incontinence outcomes.

Gynecology

New approach to SIU - Combined monopolar nonablative RF and HIEFM and only HIEFM treatment.

Borislava Popova (BG)

Wholly again center

SIU is one of the most common problems faced by women. The major risk factors are normal delivery, aging, sedentary lifestyle, hysterectomy, smoking, and overweight. The aim of this study is to evaluate the efficiency and safety of two treatments: combined intravaginal radifrequency stimulation (BTL-Ultrafemme vaginae 360) and HIEFM pelvic floor muscle stimulation (BTL-EMSELLA) and only HIEFM treatment. Radiofrequency (RF) is one of the most innovative approaches due to its noninvasiveness, absence of adverse events, and fast results. The mechanism of action is based on elevating
the temperature of the treated tissue to initiate biological changes. RF-generated heat stimulates the tissue matrix of collagen, elastin, and ground substances and results in an immediate change in the helical structure of the collagen. In addition, neocollagenesis and neoelastogenesis are triggered due to micro-inflammatory stimulation of fibroblasts, stimulating the vaginal tissue and collagen.
HIFEM technology uses high-intensity focused electromagnetic fields, which are generated by a coil to the patient who is fully clothed and cause supramaximal pelvic floor muscle contractions.It is a retrospective study to assess the efficacy of the non-surgical treatment of stress incontinence. As an alternative to surgery, we used combined therapy with Ultrafemme vaginae 360 (RF) and EMSELLA (HIEFM). The duration of therapy was 3 weeks. For the period of 4 years (2019 2023), 264 patients were included. Patients were in 2 groups: combien therapy and only HIEFM therapy. Results are gathered in the form of King's collage questionnaires at 1 and 6 months after therapy.
Method: King's Collage Health Questionnaire (31 questions): 10 questions about sympthmology and 21 questions about the restrictions of daily life routine caused by the incontinence at the start, 1-month, and 6-month
Patients: 264 patients, age group: 27 69 years old, with stress incontinence types I and IIA.
Inetrvations: 126 patients with type I, treated only with HIEFM, 2 sessions a week, 3 weeks
138 patients with type IIA-combined treatment: RF: 1 session a week + HIEFM: 2 sessions a week for 3 weeks.
Main outcome measures: healthy women: 31 points; women included in the study were 59 82; mean: 70,5
Only the HIEFM treatment satisfaction rate was 96%; the combined HIEFM+RF was 92%. The main improvement was in physical activities,sex,social activities,travel, shame, and self-esteem. Both therapies are highly effective.

Gynecology

Impact of estrogens on resting energy expenditure: A systematic review

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Context

Despite the positive aspects of hormonal contraception (HC) and/or menopausal hormone therapy (MHT) the fear of unwanted weight gain is one of the main reasons for women not to initiate or to early discontinue these therapies. For clinicians, easing women's anxiety is difficult regarding the currently limited understanding of the effects of sex hormones on body weight regulation. Resting energy expenditure (REE) is by far the largest component and the most important determinant of total energy expenditure. Given that low REE is a confirmed predictive factor for weight gain and consecutively for the development of obesity, research into the influence of sex steroids on REE is a particularly exciting area.

Objective

The objective of this systematic review was to evaluate the effects of medication with natural and synthetic estrogens on REE in healthy normal weight and overweight women.

Methods

Through complex systematic literature searches, a total of 10 studies were identified that investigated the effects of medication with estrogens on REE.

Results

Our results demonstrate that estrogen administration increases REE by up to +208 kcal per day in the context of HC and by up to +222 kcal per day in the context of MHT, suggesting a preventive effect of circulating estrogen levels and estrogen administration on weight gain and obesity development.

Discussion and Conclusion

It should be pointed out that the weight gain associated with perimenopause and postmenopause is rather a consequence of the age-related tendency to reduced physical activity, the associated loss of muscle mass, and the overall reduced energy requirement. Contrary to mainstream belief, MHT actually counteracts this age-related tendency to gain weight, with one of the mechanisms being an increase in REE. Finally, it should be emphasized that estrogens have an anorexigenic effect and thus prevent increased energy intake from compensating for increased REE. Together with this fact, our results suggest that the energy balance changes in a negative direction under the influence of estrogens. Thus, the widespread fear of weight gain solely as a result of taking HC or MHT is unsubstantiated. Our work is intended to help clinicians educate women accordingly and alleviate their fears in this regard.

HPV

Clinical factors influencing outcomes colpo-cyto-histological discrepancies in the diagnosis of cervical lesions

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Objectives: to identify the factors influencing the occurrence of discordant results between cytology/colposcopic impression/initial history and histopathological result after an excisional procedure.
Method: different clinical scenes characterized by discordant results between cytology, colposcopy and histopathology on a group of 89 patients investigated by colposcopy between 2019-2022 with cytological abnormalities and positive HR-HPV test were analyzed.

Results:

The concordance between colposcopy and histopathological examination was 69.6%, with a colposcopy sensitivity in identifying CIN3+ lesions of 79.7%. Factors associated with colposcopic understaging were: the absence of vaginal births, TZ type 3, HPV genotype, HSIL cytology, age e 50 years

Conclusions:

Colposcopic impression, transformation zone type, initial histology, cytological changes, age, HPV genotype, molecular markers should be taken into account when diagnosing and determining the management of cervical lesions. The use of molecular markers or increasing the number of colposcopically stained biopsies has been useful in identifying patients with HSIL lesions but LSIL/ASCUS cytology .Age “e 50 years and the presence of TZ type 3 are frequently associated with underdiagnosis of HSIL lesions. For the association of ASC-H/HSIL cytology and HPV 16/18 infection conization is required.
Keywords: cervical intraepithelial neoplasia, colposcopy”

HPV

The sync up of colposcopic findings with cervix precancerouses changes in cervixs with young female patients

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HPV diagnostic center

Objective
The study included 120 young female patients age 17-30 from Serbia, Montenegro Bosnia and Hercegovina as well as patients from EU countries.
All patients had HPV confirmed diagnosis (DNK type procedure).
Predominant HPV types with patients -16,18,31,33,35,45,46,51,52,56, 66,73
The organism of young females is unprepared and the incubation period is shortened from 3 weeks to 3 months.
Method:
A colposcopy procedure has been done to all patients.
Depending on the severity of HPV infection, colposcopy findings differed.
With younger patients (17-21 years of age) more severe infection resulted in a combination of several pathological images (mosaic, punctation, Aw epithelia) whereas with older patients (25-30 years of age) we found out often leuco-plaque and irregular vascular pattern.
Irregular vascular pattern and ,bacon leukoplakia - a sure sign of H-SIL and Ca cervicis
In order to establish an accurate HP diagnosis and accompanying therapy, changes in the cervix were removed by radiowave LOOP excision method.

Results:

Each female patient had a confirmed diagnosis of HPV infection of the cervix. With 47% H-SIL has been diagnosed, and 21% of patients had HPV cervicitis condylomtosa. The majority of patients with H-SIL diagnosis were younger than 25 years and after colposcopy procedure the findings were a mixture of pathological images, which appeared immediately upon smearing of the cervix with dilution of vinegar acid (AW epithelia, rough mosaic, and punctuation in the majority of cases).
L-SIL was dominant with colposcopy image of rough AW epithelia or mosaic.
CONCLUSION:
Pathological colposcopic findings is a clear indicator of HPV infection of the cervix.
In case there is a combination of a number of pathological images, it is necessary to apply an adequate therapeutical procedure in accordance with the patient s age.
It is very important to note that combination of HPV viruses at this particular gegraphical location is entirely present in polyvalent HPV vaccines.

HPV

Level of awareness about HPV infection and vaccine among the medical students: a comprehensive review from India

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Abstract

Introduction Developing and under-developed countries bear more than 80% of the global burden of cervical cancer. It can largely be prevented by prevention and treatment of sexually transmitted infections such as human papilloma virus (HPV). Both condom usage and protective inoculation (HPV vaccine) may be considered as primary prevention since cervical cancer screening only detects the pre-invasive lesions. At present, two vaccines licensed globally are available in India: a quadrivalent vaccine, Gardasil marketed by Merck, and a bivalent vaccine, Cervarix marketed by Glaxo Smith Kline. The WHO recommends the HPV vaccine as the main approach for the prevention of cervical cancer, to be preferably administered prior to first sexual contact especially in adolescent girls. Since the vaccine is most effective when administered prior to sexual contact, it is essential to inform the youth about the availability of this vaccine. Most of the studies for knowledge, awareness and practice of HPV infection and vaccination are aimed at women in the community. This study attempts to assess the awareness among medical graduates studying at various institutions spread over Southern and Central India.

Materials and Methods The current study is designed as a cross-sectional observational study for final year medical graduates at various medical colleges across India. The recruitment of participants was done by purposive snowballing technique over a period of two months. The data collection was done through an online questionnaire generated with the help of Google Forms.

Results Mean age of the participants was 21.73 (? _1.33) years with a range between 20 and 24 years (n = 354). A total of 196 (55.4%) participants knew that cervical cancer is the second most common cancer among women in India and 83.6% knew all the risk factors for cervical cancer. Approximately 51.6% were aware of the conditions that may be associated with HPV, and 69.2% were aware of the various methods of protection from HPV infection. Knowledge about the types of vaccine available in India and the dosage schedule was poor.

Conclusion Medical schools should modify their curricula to include teaching methods aimed at improving HPV vaccination and its related information. There is a need for a well-designed HPV education program integrated into a national cervical cancer prevention and control program for greater uptake of vaccination.

HPV

Regression of HPV- derived VaIN using an adjuvant treatment with a Coriolus versicolor-based vaginal gel.

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Background: Vaginal intraepithelial neoplasia (VaIN) is considered the precursor lesion of vaginal cancer. Due to its low prevalence (its diagnosis accounts for 0.4% of all premalignant lesions of the lower genital tract) there are few studies in the literature that provide an in-depth understanding of its aetiopathogenesis and natural history. Therefore, it makes clinical management of VaIN a real challenge. Human papillomavirus (HPV) infection has been identified as the causative agent in up to 90% of VaIN cases, with HPV 16 being the most frequent genotype.

Objective:

With these four case reports, we aimed to evaluate the effect of a Coriolus versicolor-based vaginal gel in the management of VaIN lesions.

Methodology: In this study, four patients between 44 and 64 years old diagnosed with VaIN through cytology, vaginoscopy and/or biopsy were included. Two of the patients were immunocompromised due to previous history of cancer and multiple sclerosis. The patient diagnosed with low-grade VaIN followed a conservative management with the Coriolus versicolor-based vaginal gel alone. The other three patients with high-grade VaIN, were subject to either an excisional treatment or a CO2/Laser vaporization, in combination with the Coriolus versicolor-based vaginal gel for 6 months as an adjuvant treatment. Follow-up cytology, vaginoscopy, biopsy, and HPV tests were performed over time for monitoring patients.

Results:

After 6 months of adjuvant treatment with the Coriolus versicolor-based vaginal gel, all patients showed regression (1 patient) or complete normalization (3 patients) of their cytology, vaginoscopy, and/or biopsy results. Additionally, patients showed negative results for HPV tests.

Conclusions:

The application of a Coriolus versicolor-based vaginal gel could be useful both, in conservative treatment (patients with LSIL VaIN) and in post-intervention treatment to prevent lesion s recurrence and aid in HPV clearance, representing a possible clinical advantage approach in this patient population.

HPV

A conservative treatment of CIN II using a Coriolus Versicolor-Based Vaginal Gel: an observational study

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Context:

Human papilloma virus infection is the most common venereal disease and is behind 99% of cervical cancer cases and its precursor lesions. According to the American Society of Colposcopy and Cervical Pathology (ASCCP), 50% of CIN2 cases managed conservatively regress spontaneously.

Objective:

Evaluate the effect of a Coriolus versicolor-based vaginal gel in the conservative management of CIN2 lesions.

Methods:

A one-cohort, prospective, single-centre, observational study.

Patients: A total of 44 women e 18 years old with a CIN2 diagnosis were recruited. Inclusion criteria was based on the Spanish Society of Colposcopy and Cervical Pathology (AEPCC) guidelines for CIN2 conservative management: adequate colposcopy image with visible transition zone, completely visible lesion affecting less than 2 quadrants, non-affected endocervix and accepting cytology/colposcopy after 6 months.

Interventions: Patients were treated with 1 cannula/day for 1 month + 1 cannula/alternate days for 5 months of Coriolus versicolor-based vaginal gel.

Main outcome measures: The main outcome was to evaluate the regression of CIN2 (CIN1 or less) after 6 months of treatment, established by biopsy. Persistence (CIN2), and progression rates (CIN3 or worse) are also reported.

Results:

Patients aged 23-49 with an average age of 35.5 years were included in this study. After 6 months, 68.2% of the patients showed a regression by biopsy. From the rest of them, 11.4% persisted on CIN2 and 18.2% progressed to CIN3. Three patients were considered null and not included in the data analysis because they did not have a biopsy taken after 6 months.

Conclusions:

The application of Coriolus versicolor-based vaginal gel seems to increase regression of the lesions compared to spontaneous resolution and could represent a clinical advantage compared to the wait and see approach in patients meeting the conservative treatment criteria for CIN2 lesions.”

HPV

Efficacy of A Multi-Ingredient Coriolus Versicolor-Based Vaginal Gel in High-Risk Hpv Women Over 40: Sub-Analysis of The Paloma Clinical Trial & Papilobs Real-Life Study

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Context:

HPV clearance and resolution of cervical HPV-dependent lesions become difficult in peri- and post-menopausal women.

Objective:

To jointly present a sub-analysis of the PALOMA and PAPILOBS clinical studies in the high-risk (HR) HPV-positive women over 40 years sub-population.

Methods:

PALOMA (NCT04002154) was a multicenter, randomized, open-label, parallel-group, watchful waiting approach-controlled clinical trial. PAPILOBS (NCT04199260) was an observational, multicenter, prospective, one-cohort study.
Patients: Patients included in the PALOMA study were unvaccinated HPV-positive women aged between 30-65 with cytology of ASCUS/LSIL and concordant colposcopy image. HPV-positive women over 25 years with cytology of ASCUS/LSIL and concordant colposcopy were included in PAPILOBS study. A total of 30 and 68 HR-HPV patients were evaluated in the PALOMA and PAPILOBS studies, respectively.
Interventions: In the PALOMA trial, patients were randomized into: A) Papilocare® 1 cannula/day (1 month) + 1 cannula/alternate days (5 months); B) Papilocare® 1 cannula/day (3 months) + 1 cannula/alternate days (3 months); C) Control group: watchful waiting approach. In the PAPILOBS study, patients were treated with Papilocare® 1 cannula/day (1 month) + 1 cannula/alternate days (5 months).
Main outcome measures: Percentages of HR-HPV patients with normal cytology and concordant colposcopy after treatment in over 40 yo subpopulation are presented.

Results:

In the PALOMA trial, normal cytology and concordant colposcopy was observed in 90% vs 33% patients in A+B vs. control groups, respectively, (p=0.003, Fisher test). In the PAPILOBS study, normal cytology and concordant colposcopy was achieved in 73.5% of patients.

Conclusions:

After a 6-month treatment period, Papilocare® showed a clinically robust and statistically significant efficacy in repairing cervical HR-HPV lesions in women over 40 years vs watchful waiting approach. This efficacy was corroborated in the real-life study.

HPV

Efectiveness of a multi-ingredient coriolus versicolor-based vaginal gel in HPV+ and HIV+ patients: a pilot observational study.

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Context:

Human immunodeficiency virus (HIV) -positive patients are at greater risk of incident, persistent, or recurrent human papillomavirus (HPV) infection compared to uninfected subjects. They also have lower clearance rate, higher viral load, and a marked predisposition for being colonized by several genotypes, all leading to more frequent and severe HPV-dependent lesions. A Coriolus versicolor-based vaginal gel has shown to repair HPV-dependent low-grade cervical lesions and to increase high-risk HPV clearance in immunocompetent HPV-positive patients.

Objective:

The aim is to provide evidence about the effectiveness of a multi-ingredient Coriolus versicolor-based vaginal gel on HPV-dependent cervical alterations and HPV clearance in HIV+ patients.

Methods:

Descriptive, prospective, observational, pilot study. The study was approved by an IRB and informed consent was signed by patients.
Patients: 15 HIV-positive patients colonized by HR-HPV in the endocervix region with an anomalous cervicovaginal cytology were included.
Interventions: Patients received a Coriolus versicolor-based vaginal gel 1 cannula/day for 21 days during first month + 1 cannula/alternate days for 5 months.
Main outcome measures: To evaluate the cytological normalization, colposcopy image improvement and HPV clearance (measured using a hybrid capture test) after 6 months of treatment.

Results:

The overall HPV clearance and cytological normalization rates were 73.33% and 80%, respectively. Endocervical colonization by HPV also partially cleared in 13.33% of the cases. At the end of the study, the normalization of the colposcopy anomalies associated to HPV was achieved in 55.56%.

Conclusions:

Our results suggest that the proposed Coriolus versicolor-based vaginal gel treatment scheme could be an effective therapy in the management of endocervical HPV infection in HIV+ patients. Its effects are similar to those obtained in patients without immunosuppression.

HPV

Design and Biological Evaluation of E6-Targeting PROTAC via CADD Technology

Hua Yue (CN), Yang Shen (CN)

ContextÿApproximately 70% of HSIL are caused by hr-HPV infection. The oncoprotein E6 plays a critical role in the disease progression by forming a complex with p53 through E6AP and promoting its degradation via the ubiquitin-proteasome pathway. PROTAC is a heterobifunctional molecule that recruits E3 ubiquitin ligases to the vicinity of target proteins and then targeted protein was transported to the proteasome for degradation. In this study, we aimed to develop a novel therapeutic approach for HSIL by employing CADD technology to design a specifically E6-targeting PROTAC molecule.

Objective:

To design a PROTAC with excellent ability to degrade E6 oncoprotein.

Methods:

First, the structure of the E6-E6AP complex was analyzed using DS software. Subsequently, virtual screening with alanine mutation, saturation mutation, and multi-point mutation was performed to identify targeted peptides with high affinity to E6 protein. The affinity of the targeted peptides was further confirmed using SPRi assay. Next, the preferred peptide was conjugated with a CRBN ligand via different linkers to create heterobifunctional molecules. The ability of the designed PROTAC to degrade E6 oncoprotein was evaluated by WB.

Participants: Patients with hr-HPV infection were included.

Interventions: Cervical cancer cells expressing E6 protein were treated with PROTAC molecules.

Main Outcome Measures: KD value was used to select the preferred peptide with high affinity for E6 protein. The expression level of E6 protein was determined by the intensity of protein bands on WB.

Results:

SPR analysis revealed four peptides (P1, P7, P9, and P17) that exhibited high affinity with E6 protein. The KD values for these peptides were 23.16 nM, 85.53 nM, 4.836 nM, and 89.13 nM, respectively. WB experiments demonstrated that the PROTAC treatment resulted in a 30% reduction in E6 expression at 24 hours, while the expression of p53 was 1.9 times higher compared to the control group.

Conclusions:

In this study, we successfully identified four peptides with high affinity against E6 protein via CADD technology and designed PROTAC molecules targeting E6 protein by conjugating the preferred peptide with a CRBN ligand. The WB experiments confirmed the ability of the PROTAC to prevent the formation of the E6-E6AP-p53 complex and preserved p53 from degradation. These findings suggest that E6-targeting PROTAC could serve as a potential therapeutic option for patients with hr HPV infection.

Infections, Microbioma and Oncology

Development of model for prognosis and therapeutic effect of bevacizumab in ovarian cancer: clinical use of deep learning-based pathomics signature

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Context:

Bevacizumab is an advanced targeted agent that suppresses tumor progression by inhibiting vascular endothelial growth factor (VEGF). The effectiveness of bevacizumab in patients with ovarian cancer (OC) can be predicted by constructing a deep learning-based classifier for identifying tumor regions from whole slide images (WSIs).

Objective:

The objective of this study was to develop a deep learning-based classifier to identify tumor regions and predict the effectiveness of bevacizumab in OC patients.

Methods:

Tumor regions were identified from WSIs using a deep learning-based classifier. The specificity and accuracy of the classifier were evaluated in the TCGA-OV cohort and TCIA cohort. Tumor nucleus features and tumor microenvironment (TME) features were extracted using CellProfiler and a convolutional neural network (CNN) framework in patients with different treatment responses to bevacizumab. Lasso regression analysis was conducted to identify 41 hub pathomics features in the TCIA cohort. Cluster consensus analysis was then performed on these features in the TCGA-OV cohort, resulting in the classification of patients into two clusters based on overall survival (OS).

Patient(s):

Patients with OC were included in this study.

Intervention(s):

The intervention involved the use of a deep learning-based classifier to identify tumor regions from H&E histology and predict the effectiveness of bevacizumab. Genomic analysis and evaluation of TME status were also performed.

Main Outcome Measure(s):

The main outcome measures were the development of a deep learning-based classifier for tumor region identification, prediction of bevacizumab effectiveness, and identification of differentially expressed genes.

Result(s): The deep learning-based classifier demonstrated excellent specificity and accuracy in the TCGA-OV and TCIA cohorts. Patients were classified into two clusters based on 41 hub pathomics features, showing different OS, TILs status, and chemotherapy responsiveness.

Conclusions:

This study highlights the potential of a deep learning-based classifier to distinguish tumor regions and predict bevacizumab effectiveness in OC patients. Additionally, the identified clusters based on pathomics features provide insights into genome characteristics and TME status, offering potential therapeutic targets for OC treatment.

Infections, Microbioma and Oncology

Application of 3D-Tumor Spheroids in Drug Discovery

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Introduction: In these latter days special importance is played to in vitro models based on cell cultures, including multicellular tumor spheroids (MTS) because of the tightening of the requirements for animal experiments. MTS are artificially produced small solid tumors, which are a three-dimensional (3D) model consisting of cancer cells received by taking a biopsy from a cancer patient. 3D cultures of tumor cells overcome the limitations associated with such basic characteristics as volume gradients, growth factors, and metabolites and the presence of necrotic, hypoxic, resting, and proliferating cells.
Aims: The aim was to prove the advantage of the 3D model over the 2D model in order to further integrate the in vitro model of MTS into the design of anticancer drugs and to use primary tumor cells in drug screening studies for the implementation of personalized cancer treatment.

Methods:

In the study, multicellular spheroids generated from a suspension of isolated cells of the immortalized adenocarcinoma cell line MCF-7 of human breast were obtained in the serum. Microcapsules with MTS were incubated in 24-well plates with Methotrexate for 48 hours. The control group was presented by the monolayer MCF-7 culture (100,000 cells per well). Quantitative evaluation of the surviving cells was carried out with trypan blue dye in a Fuchs-Rosenthal counting chamber.

Results:

The survival rate of viable cells in the control group was 2 times less than in MTS with a Methotrexate concentration of 100 nM. Evaluation of the cytotoxic effect of Methotrexate, based on the size of MTS was also made. When Methotrexate concentration of 100 nM, the number of living cells was 65 and 88% for spheroids with size of 150 and 300 ¼m, respectively, while in the control group this value was only 35%.
Conclusion: Compared to 2D cultures, cancer cells in 3D spheroid cultures demonstrate greater resistance to cytotoxic drugs, with the cytotoxic effect of Methotrexate decreasing while MTS size increasing. In this regard, 3D tumor models are a valuable “tool” for cancer research in the context of drug discovery.

Infections, Microbioma and Oncology

The vaginal microbiome of transgender men receiving gender affirming hormone therapy in comparison to cisgender woman

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Context
Gender affirming hormone therapy (GAHT) is important in gender affirming care and can lead to significant reduction of gender dysphoria. Vaginal health in transgender men (TM) is understudied and the knowledge about the effects of testosterone therapy on the vaginal microbiome is scant.
Objective
The aim of this study was to evaluate the vaginal microbiome of TM and compare it to the vaginal microbiome of cisgender women.
Methods
Two vaginal swabs were taken as part of the routine gynecological follow-up or before hysterectomies at the University Department of Gynecological Endocrinology and Reproductive Medicine Innsbruck. Basic demographic information and sexual history of all participants were collected during the appointment. Serum was taken from TM for hormone analysis.
One vaginal swab was used for evaluation of the nuggent score as an indicator of bacterial vaginosis, the other for microbiome analysis. Bacterial community profiles were assessed with broad-range PCR primers targeting the V3 V4 hypervariable region of the 16S bacterial rRNA and next-generation sequencing.
Patients
The study group consisted of healthy TM under GAHT for at least 10 months (n = 25) and two control groups of cisgender women (premenopausal women (n = 25), postmenopausal women with amenorrhea for at least one year (n = 25)).
Result(s)
The average age of TM was 23 years. The average testosterone level in TM was 5,2µg/l and reached the male reference range for testosterone (3-10µg/l). Of the sexually active TM (n = 10), 53.8% had sexual intercourse in the week before sample collection. The microbiome of TM undergoing GAHT was associated with a higher ±-diversity (Shannon-Index; M=3,89) as compared to both control groups (premenopausal women M=1,66; postmenopausal women M=2,94) and the vaginal flora was less likely than in controls to have Lactobacillus as their primary genus. The microbiome of TM was dominated by Prevotella.
Conclusions
The vaginal microbiome of TM undergoing GAHT differs from that of cisgender women. As the dominant genus in the microbiome of TM was Prevotella, there might be a higher risk of bacterial vaginosis and pelvic inflammatory disease (PID). The decrease of Lactobacillus in the vaginal flora may lead to vaginal dryness as well as higher risk of infection.

Infections, Microbioma and Oncology

A Novel Peptide Agent Reverses Chemoresistance in Ovarian Cancer by Inhibiting AXL Phosphorylation

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Context:

Ovarian cancer (OC) exhibits high resistance to multiple frontline clinical therapies, thereby limiting treatment effectiveness. AXL receptor kinase (AXL) has been identified as a key regulatory factor in the development of OC chemoresistance. Our previous study has designed and synthesized a peptide, Pep-IK, which was capable of effectively inhibiting AXL phosphorylation to enhance chemosensitivity in OC.

Objective:

The objective of this study was to verify the chemosensitivity enhancing role of Pep-IK in combination with chemotherapy agents (cisplatin, paclitaxel, and doxorubicin) and elucidate the mechanism of action.

Methods:

Twenty OC patients at various stages were included in the study. OC tissue samples and adjacent non-cancerous tissue samples were collected for immunohistochemical analysis of AXL expression levels. OC cell lines (SKOV3 and HO8910) and AXL knockdown, AXL-overexpressing cell lines were utilized for experiments. Western blot, CCK-8 assay, immunofluorescence staining, and other experimental assays were employed to assess the inhibition of AXL and OC development in cells treated with Pep-IK.

Patients: Twenty OC patients at different stages were included in the study, with OC tissue samples and adjacent non-cancerous tissue samples collected from each patient.

Intervention: No additional intervention was performed on the patients. For biological experiments, interventions included the assessment of the effects of Pep-IK, chemotherapeutic agents, and their combination on OC proliferation, migration, and invasion.

Main Outcome Measures: The main outcome measures were the phosphorylation level of AXL, as well as the effects of Pep-IK and chemotherapeutic agents on OC cell lines, including proliferation, migration, and invasion ability.

Results:

The results demonstrated a significant correlation between AXL phosphorylation levels and chemoresistance in OC. The combination of Pep-IK and chemotherapy agents could effectively inhibit AXL phosphorylation and OC progression. Reversal of chemoresistance upon AXL inhibition via Pep-IK treatment was observed.

Conclusions:

Our study indicated that the Pep-IK could significantly inhibit AXL phosphorylation, increasing the sensitivity of OC to chemotherapy agents. Our study provides support for the development of novel strategies for OC treatment, with the peptide showing promising effect as a potential therapy for OC treatment in the future.

Infections, Microbioma and Oncology

Vaginal Lactobacillus iners abundance is associated with outcome in antibiotic treatment of bacterial vaginosis and capable of inhibiting Gardnerella

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Bacterial vaginosis is characterized as a polymicrobial dysbiosis with the loss of Lactobacillus spp. and growth of multiple anerobic bacteria, including Gardnerella, Prevotella and Atopobium ranked as the top three most abundant. A total of nine Gardnerella genomospecies have been identified, yet the association between their distribution or any exact Lactobacillus species with BV occurrence or prognosis remains controversial. A total of 308 patients and 62 healthy women who sought annual examinations were recruited, with 130 BV patients and 41 healthy women who met our inclusion criteria finally included. Vaginal samples were used for microscopic examination, 16S rRNA sequencing, bacterial culture and isolation. Isolates of Gardnerella vaginalis, Fannyhessae vaginae (used to be called Atopobium vaginae) and Lactobacillus iners were used for competition tests. We found that the relative abundances of Gardnerella, Prevotella and Atopobium were elevated in BV patients compared to healthy people ($p<0.0001$), yet no significant differences were found among patients with different clinical outcomes ($p>0.05$). Seven out of nine Gardnerella genomospecies were present in both BV patients and healthy women, and the relative abundances of all detected genomospecies were higher in BV patients ($p<0.05$). Cured patients possessed higher GS03 than intermediate and failed patients ($p=0.005$, 0.0337). L. iners was significantly higher in cured patients than in the other two groups ($p=0.0021$, $p<0.0001$), and its ability to inhibit the growth of G. vaginalis and F. vaginae was validated. In summary, seven Gardnerella genomospecies were detected in Chinese BV patients, but no association of its distribution and BV occurrence or prognosis was found. The relative abundance of L. iners was higher in cured patients, and its antimicrobial activity against G. vaginalis and F. vaginae was validated through in vitro inhibition experiment. L. iners could become a predictive indicator of clinical outcomes of BV patients, and its antimicrobial function might be beneficial to BV patients.

Infertility, ART and Fertility preservation

Treatment with a patented mix of 3.6:1 MYO to DCI-Inositol Ratio and antioxidant-based food supplement in women with history of assisted reproductive techniques failures: a series of case reports

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Context:

Infertility is estimated to affect 15% of couples in reproductive age worldwide. In women, it can be caused by a complex range of abnormalities. Currently, there are many assisted reproduction techniques (ART) available, however they do not guarantee positive results. The administration of a Myo-inositol (MYO):D-chiro-inositol (DCI) 3.6:1 ratio has been proven to significantly increase oocyte quality, pregnancy and live birth rates in randomized clinical trials.1,2

Objective:

To study the effect of the supplementation with a specific patented food supplement containing: Caronositol® (MYO:DCI 3.6:1 ratio), Pomanox® P30 (Punica granatum extract), melatonin and the following vitamins and minerals: Quatrefolic® (5-methyltetrahydrofolate), group B vitamins, D3, E, zinc, selenium and iodine before in vitro fertilization (IVF).

Methods:

A series of case reports.
Patient: A series of 5 clinical cases involving women with a history of primary or secondary infertility and previously failed assisted reproductive techniques (ART).
Intervention: Conventional IVF was scheduled after supplementation for a period of 1-3 months.
Result: This series of cases represent a frequent female profile eligible for ART; women with an average age of 35 years and gestational desire, undergoing recurrent failed ART, with diminished ovarian reserve, endocrine alterations and/or impaired oocyte quality. In all cases, pregnancy was achieved in a short period of time (1-3 months), after receiving supplementation with a patented mix of 3.6:1 MYO to DCI-Inositol ratio and antioxidant based food supplement and undergoing IVF.

Conclusions:

Supplementation with a patented mix of 3.6:1 MYO to DCI-Inositol ratio and antioxidant based food supplement, on top of antioxidants, vitamins, and minerals may contribute positively to female fertility in women undergoing IVF with a history of primary or secondary infertility and previously failed ART.

References:
1. Mendoza N, et al. Gynecol Endocrinol. 2019 Aug;35(8):695-700.
2. Mendoza N, et al. Gynecol Endocrinol. 2020 May;36(5):398-401.

Infertility, ART and Fertility preservation

Assessing Dose-Dependent Effects of Cyclophosphamide and Busulfan on Ovarian Function and Fertility in Peripubertal and Young Adult Mice

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Context:

Advances in cancer treatment have substantially increased the survival rate of children, adolescents, and young adults (CAYA) cancer patients. However, female CAYA survivors have an elevated risk of ovarian failure and infertility. Therefore, questions regarding long-term ovarian function and fertility have been arising. The side effects of cancer treatment depend on the therapeutic protocol, dose, and, patient s age at the time of treatment. High doses of chemotherapy are known to induce premature ovarian insufficiency (POI) and infertility, but the impact of lower doses is less established. While fertility preservation is highly recommended for post-pubertal girls treated with high doses of chemotherapy, it remains a topic of debate for prepubertal girls and patients exposed to lower doses. More evidence is needed to clearly establish the treatment timing and dosage of chemotherapy that require fertility preservation.

Objective:

The aim of this study is to determine the impact of different chemotherapy protocols, using cyclophosphamide (CYP) and busulfan (BUS), administrated at different life stages on ovarian function and fertility.

Methods:

Peripubertal female (4 weeks old) and young adult (8 weeks old) C57BL/6 mice received either a single injection of two different doses of CYP/BUS (120/12 mg/kg or 12/1.2 mg/kg) or 6 injections over 2 weeks of CYP/BUS (15/1.5 mg/kg, 37.5/3.7 mg/kg or 75/7.5 mg/kg). Follicular density and functions were assessed in ovaries harvested 24 hours or 7 days after the last injection. Fertility was assessed by monitoring the estrus cycle for 21 days followed by mating experiments.

Results:

Peripubertal and young adult mice receiving a single injection of 120 mg/kg of CYP/BUS showed a decrease in primordial follicles but achieved several pregnancies. No difference in litter size compared to the control was observed. Peripubertal mice treated with 75 mg/kg of CYP/BUS showed also a decrease in primordial follicle density associated with impaired estrus cyclicity, and none of them were able to achieve pregnancy.

Conclusions:

Multiple injections of the highest dose of chemotherapy completely impaired the fertility of peripubertal mice due to POI. Further research is needed to establish a diminished ovarian reserve (DOR) mouse model that mimics the impact of lower doses in humans. To go further, with the POI and DOR mouse model, we will focus on the impact of ovarian tissue preservation on ovarian function and fertility.

Infertility, ART and Fertility preservation

Supplementation with a 3.6:1 Myo-Inositol to D-Chiro-Inositol Ratio for patients with PCOS to improve oocyte quality during ovarian stimulation

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Context:

Polycystic Ovarian Syndrome (PCOS) is a hormonal disorder, in which 80% of patients have insulin resistance and compensatory hyperinsulinemia: causing hyperandrogenism and anovulation. Due to this condition oocyte quality decreases, and therefore PCOS patients are treated with insulin sensitizing agents. A 3.6:1 Myo-Inositol: D-chiro-Inositol (MYO:DCI) ratio has been shown to improve insulin sensitivity, oocyte quality and pregnancy rates in women with PCOS. 1,2

Objective:

To evaluate if patients with PCOS benefit from a 3.6:1 MYO:DCI ratio treatment before ovarian stimulation.

Methods:

This was a retrospective study from 2018 to 2021.
Patient: 92 patients diagnosed with PCOS according to the Rotterdam criteria, were stimulated with antagonist protocol and had a minimum of 15 oocytes retrieved via oocytes pick-up (OPU). All patients went to OPU when at least one follicle reached 18 mm. All oocytes retrieved were fertilized by ICSI.
Intervention: Two groups of patients were made depending on the use of 3.6:1 MYO:DCI 1 month before ovarian stimulation (Group 1) or not (Group 2).

Main Outcome Measure(s):

To compare the number of oocytes retrieved, MII rates/patients, fertilization rates, pregnancy rates, and number of cycles with at least one good quality embryo, using the t-Student between groups.
Result(s): A total of 92 cycles were included (Group 1: 46 cycles, 2020-2021) and (Group 2: 46 cycles, 2018-2021). No significant differences were obtained in number of oocytes retrieved between groups (21.5 Group 1 vs 20.7 Group 2; p=0.56), or metaphase II oocyte rates/patients (72.06% Group 1 vs 71.23% Group 2; p=0.68). However, statistically significant differences were found when we compared the fertilization rates between groups (76.9% Group 1 vs 70.44% Group 2; p=0.007); and the number of cycles without at least one good quality blastocyst to transfer between groups (4.35% Group 1 vs 17.39% Group 2; p=0.04). The clinical pregnancy was significantly higher in supplemented group compared to control group (54.39% Group 1 vs 42.65% Group 2; p=0.0203).

Conclusions:

A 3.6:1 MYO:DCI ratio-based food supplement 1 month before ovarian stimulation could improve the oocyte quality and resulted in a significant increase in pregnancy rate.

References:
1. Mendoza N, et al. Gynecol Endocrinol. 2019 Aug;35(8):695-700.
2. Mendoza N, et al. Gynecol Endocrinol. 2020 May;36(5):398-401.

Infertility, ART and Fertility preservation

Effect of adding phytoestrogen versus sildenafil to clomiphene citrate on endometrial thickness and pregnancy rates in women with unexplained infertility.

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Context
Pregnancy rates are significantly higher after timed intercourse with clomiphene citrate (CC) and ovulation trigger compared to placebo in couples with unexplained infertility. CC exerts alongside desirable central actions, less desirable endometrial anti-estrogenic changes that can result in suboptimal pregnancy rates. Phytoestrogen is expected to reverse these changes. Sildenafil Citrate, a well-known phosphodiesterase inhibitor, is a potent vasodilator improving endometrial blood flow with a potential to increase implantation.
Objective
To compare between the effectiveness of adding phytoestrogen or sildenafil to CC on endometrial thickness and pregnancy rate in females with unexplained infertility.
methods
Randomized controlled trial.
Patients
150 infertile women aged 25-35 years, who had normal ovulation and tubal patency with their partners having normal semen analysis were enrolled.
Interventions
Women were randomly received only oral CC 50mg twice daily from 2nd to 6th day of the cycle, CC with added oral phytoestrogen “black cohosh” 80 mg twice daily from 2nd day of the cycle till the day of hCG trigger, and CC with added oral sildenafil citrate 20 mg every 8 hours from 2nd day of the cycle till the day of hCG trigger. Monitoring of ovulation by transvaginal ultrasound was done on day 10 of the cycle until the detection of one dominant follicle e18 mm or more with evaluation of endometrial thickness and pattern. Ovulation was triggered by IM hCG 5000 IU followed by timed intercourse. Serum pregnancy test was done 14 days after ovulation.
Main outcome measures
Endometrial thickness at the day of hCG trigger and pregnancy rate.
Results
The endometrial thickness at the day of hCG trigger was significantly higher in women receiving phytoestrogen (10.68±1.46) than the other 2 groups (P-value<0.001) and in the sildenafil group (9.02±1.13) than the CC only group (5.12±0.82) (P-value<0.001). Trilaminar endometrium was significantly higher in women receiving phytoestrogen (78%) and in women given sildenafil (68%) than in women given CC only (29%) (p value = 0.003). Pregnancy rate was higher in the sildenafil group (30%) and in the phytoestrogen group (24%) than in CC only group (14%) with non-significant difference between the 3 groups (p value = 0.155).
Conclusion
Phytoestrogens and sildenafil can counter the endometrial deleterious consequences of CC but with weak positive effect on pregnancy rate.”

Infertility, ART and Fertility preservation

Shotgun-proteomics based approach to unravel the potential mechanisms and candidate protein biomarkers of Escherichia coli mediated infertility in female mouse model

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Context:

Bacterial infections are often overlooked as a determinant of female reproductive issues, even though they clandestinely contribute to cases of infection-mediated infertility. Despite advancing knowledge in medical diagnostic technology and curative interventions, the existing insights are insufficient to curb the infertility menace.

Objective:

The main goal of this study is to obtain new insights into the potential molecular mechanisms and candidate protein biomarkers beyond infection-mediated female infertility for the identification of biomarkers significantly over- or under-expressed in vaginal lavages and reproductive tissues.

Methods:

Female BALB/c mice in the experimental groups received intravaginal administration of either 20 µl of 108 cfu sperm agglutinating Escherichia coli (test group) or 20 µl of PBS (control group) for ten consecutive days. On day 12, preliminary comparative protein profile of vaginal lavages and reproductive tissues (vaginal tissue, fallopian tube, ovary, and uterus) was carried out using SDS-PAGE and RP-HPLC. By using quantitative label-free proteomics (nano-LC-MS/MS) and integrated bioinformatics analysis, we investigated the proteome of vaginal lavage fluid and uterus tissue.

Results:

A total of 141 proteins for vaginal lavages and 52 for uterus tissue were detected to be differentially expressed, depicting significant under-expression (log2FC d -1

Infertility, ART and Fertility preservation

Flexible or fixed progesterone-primed ovarian stimulation (PPOS) - a preliminary report

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Context:

Progesterone-Primed Ovarian Stimulation (PPOS) is a novel ovarian stimulation protocol in Assisted Reproductive Technology (ART) However, it is questionable whether PPOS has the same effect and is safer than conventional ovarian stimulation protocols. Although oral administration of exogenous progesterone to prevent LH surge, such as medroxy progesterone acetate (MPA) beginning in the early follicular phase is used with gonadotropin during ovarian stimulation, there is no consensus regarding when to start MPA.

Objective:

The aim of the study was to compare between fixed PPOS (Group I) and flexible PPOS (Group II) in terms of total gonadotrophins dose, the duration of ovarian stimulation, total oocyte retrieved, the number of mature oocyte, fertilization rate, endometrial thickness and serum estradiol levels on trigger day in predicted normo-responder primary subfertil cohort.

Methods:

Retrospective cohort study
Patients: Total 30 patients were analyzed retrospectively between June, 2022 and January, 2023.
Interventions: In fixed protocol (n1: 14), Medroxy Progesterone Acetate (MPA) 10 mg/day was started on same day with gonadotrophins and continued until the day of ovulation trigger. In flexible protocol (n2: 16), MPA 10 mg/day was added when leading follicle reached 12 mm and/or estradiol levels e300 pg/ mL and continued in the same manner in the fixed protocol. Inclusion criteria were primary subfertility, predicted normal ovarian responders, non-smoker, tubal factor, unexplained subfertility and male factor.
Main outcome Measures: were total gonadotrophins dose, the duration of ovarian stimulation, total oocyte retrieved, the number of mature oocytes, fertilization rate, endometrial thickness on trigger day and estradiol levels on trigger day was compared retrospectively.

Results:

Demographic characteristics were similar in both groups. Total gonadotrophin dose for ovarian stimulation in group I and group II were 2607.2”305.4 Unite and 2196.3”370.6 Unite (p= 0.032), respectively. There were statistically significant differences between fixed protocol and flexible protocol in terms of the duration of ovarian stimulation (14, 2” 1,9 days versus 12,3” 2,1 days, p=0.047) and estradiol level on oocyte retrieval day 1635,3”306,5 pg/mL versus 1987,4”279.4 pg/mL, p=0.039), respectively.
Conclusion: Flexible PPOS may reduce gonadotrophin consumption, the duration of ovarian stimulation and endometrial thickness on trigger day.”

Infertility, ART and Fertility preservation

Epigenetic clock and infertility: a new predictor of in-vitro fertilization success?

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Context
In the in-vitro fertilization (IVF) field, the search for a suitable success predictor is ongoing. Novel biomarkers have recently gained wider attention. Epigenetic clocks, mathematical models based on DNA methylation, have revolutionized the aging research field. They reflect biological ageing that may not reflect the chronological one. Epigenetic clocks might glean additional information on infertilility, going beyond the already well-known concept that reproductive chances reduce along with aging. Yet, only preliminary evidence is available.
Objective
We aimed to verify whether epigenetic clock could predict IVF success (clinical pregnancy rate).
Methods
In a prospective observational study, we recruited women scheduled for IVF. We divided them into two groups: those who were pregnant and who were not after IVF protocol.
Patients
We considered a large unselected population.Inclusion criteria were: normal weight and serum FSH levels, unrestricted for age. Severe male factor was excluded.
Intervention
Blood samples were collected in EDTA-containing tubes before ovarian stimulation. After leukocytes'DNA extraction, we calculated the methylation pattern of 5 CpG sites to apply the "Zbie-Piekarska2" epigenetic-age model.
Main Outcome Measure
We compared the resulting epigenetic age between pregnant vs non pregnant group.
Results
Of the 173 patients enrolled, 59(34%) were pregnant. The two populations were comparable for basal characteristics and AMH value. Higher number and available MII oocytes, higher fertilization rate and cleavage stage embryos charactized the pregnant group. Yet of border significance, pregnant women were epigenetically younger than unsuccessful ones (p 0.06).Respectively, the median value and interquartile range was 36 [33 - 40] and 38 [35 - 41] years. Epigenetic age was more accurate in pregnancy prediction, than common ovarian reserve parameters (AMH, AFC). In fact ROC analysis showed 0.596 of the Area Under the Curve (AUC) (95%CI: 0,506-0,684) with Zbie-Piekarska2 model, while AMH and AFC performance was lower (respectively AUC 0,547, 95%CI: 0,457- 0,636 and AUC 0,588, 95%CI: 0,501-0,676).
Conclusions
This is the first study that has investigated the possible role of epigenetic age as IVF success predictor, in a prospective cohort of infertile women without age restriction. Our findings encourage further research and support the interest in developing new epigenetic models specifically set on fertility time.

Infertility, ART and Fertility preservation

Leiomyoma uterine infertility key factor

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Uterine leiomyoma is described in the literature as one of the most common benign tumors that is encountered and which cause relevant public health problems; it affects the fertile capacity especially on women that are in their thirties or younger, which makes it even more difficult to obtain an optimal treatment idea that transform into a physiologic pregnancy, naturally achieved or by ART.

In order to understand this, we have decided to conduct this review with the purpose to bring up to date an insufficiently discussed matter, namely reducing the incidence in women diagnosed with uterine leiomyoma that associates loss of fertility, through a modern management of diagnostic resources, especially ultrasound, and treatment as well.

If we take a closer look at current evidence, leiomyomas might increase the risk of some adverse pregnancy outcomes, and also tend to deliver so much psychosocial impact related to those women who try to conceive. Data from literature regarding uterine leiomyomas and their impact on reproductive outcome can be confusing altogether. Patient characteristics and its high heterogeneity and clinical aspect of fibroids, as well as randomization difficulties related to remarkable emotional and economic considerations of fertility related treatments, have made evidence-based conclusions difficult to achieve. Current consensus is that submucosal leiomyomas and intramural/submucosal (intramural fibroids encroaching the endometrial cavity) affect implantation and diminish pregnancy rates. Viewed as a burden nowadays, many women are deciding to postpone pregnancy. As age advances, the chance of having uterine disorders increases, and the incidence of leiomyomas in pregnant women rises as well.

Patients in whom uterine leiomyoma are the main cause of infertility visit the clinic, for the first time maybe, with a history of habitual abortions for at least 2 years. The uncertainty of the evolution of the tumor and the pathological gynecological spectrum of some women tend to develop challenges for doctors in terms of what treatment is required and what is the reproductive prognosis.

Fibroids are an extremely heterogeneous condition and should not be aggregated into a unique diagnostic entity.

Treatment must be individualized according to the symptoms and whether there is infertility, due to the fact that this disease and its effects on natural fertility remain controversial. Minimally invasive surgery continues to be the therapy of choice.

Infertility, ART and Fertility preservation

A simple way to increase the pregnancy rate in oligoasthenotratospermia patients: A pilot study

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Context:

Studies have found a correlation between semen quality and pregnancy rates in ART cycles. It is crucial to improve the success rate of infertility treatment centers due to the high costs and psychological impacts on couples.

Objective:

This study aimed to investigate whether using a second ejaculation sample on the day of egg collection improves the fertilization and pregnancy rate in patients with oligoasthenotratospermia (OAT).
Patients &

Methods:

The study is of the historical cohort type, where the background of 40 infertile couples with male infertility was studied during 2021-2022. All the patients had antagonist protocol for hyperstimulation and male partners had a sperm concentration of less than 15*106/ml, total motility of less than 25% and normal morphology of less than 2%. All male partners provided semen samples after 3-5 days of abstinence on egg collection day. Half of the men were asked to give a semen sample again after 3 hours from the first sample (OAT2), and after evaluating the sperm parameters and making sure that the quality of the second sample was adequate, the second sample was used for ICSI. For the rest, the first sample was used (OAT1).
Main Outcome Measures: Fertilization, cleavage and pregnancy rates were evaluated. Paired T-Tests were used for statistical analysis with a significance level set at PÂ0.05.

Results:

The average age of the patients was 34.45±1.45, and there was no significant difference between the two groups in terms of the number of eggs obtained, the percentage of MII, MI, GV and degenerated eggs. In terms of sperm density, a significant difference was observed between the two groups, P=0.006 (11.50±3.59 *106/ml) and (7.65±4.69*106/ml), respectively. There was a significant difference between the two groups regarding the total motility (PÂ0.05) but no significant difference was observed regarding the normal morphology rate. The fertilization rate of the OAT1 group was 74.35±16.70 and this rate was 62.65±20.57 for OAT2 and there was no significant difference. After evaluating the cleavage rate, there was no significant difference found between the two groups. The pregnancy rate in the first group (OAT1) was 31.58% and for the second group (OAT2) was 68.42% and there was a significant difference (P=0.0281).
Conclusion: The findings of this research illustrated that in an OAT infertile man, giving the second semen sample on the day of egg collection may significantly improve the pregnancy rate. It is necessary to investigate this, in a large population and if the results have been approved, it is a brilliantly easy way to raise the pregnancy rate in oligoasthenotratospermia men due to being able to observe that the DNA fragmentation in semen decreases in subsequent ejaculations.

Infertility, ART and Fertility preservation

Women going ahead of their biological clock, fertility perseverance as a trend, current approaches and methods

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Context

Nowadays, people have a lot of opportunities to explore their capabilities in different fields, especially modern woman who try to push themselves to the limits of independence and achieves top careers. this type of living delays her choice to put herself in a stable environment where she is ready to commit to a new big chapter in her life, for which she thinks she isn't ready yet. As it is a good approach to living your best life and enjoying it, our biological clock is against us and is affected by daily choices of delaying parenthood. In this paper, we are going to discuss methods modern science uses, to help a woman plan her life as she wants, without facing consequences as infertility.

Objective

Fertility changes occur during the life course of the person, biological clocks represent the fact that having children of your own will generally become harder through a lifetime. It is a fact that Individual age is primarily affecting the number of gametes(oocyte and sperm) and their quality. Fertility preservation is a process, that gives an opportunity to have children in the future, it s like insurance for the days when a person is ready to commit.

Firstly, before deciding to go through this procedure, it is a must to have a consultation with a doctor and embryologist, to have a clear understanding of the procedure, its meaning, risks, and your individual case.

Methods:

Storing own biomaterial includes using the fast freezing method, using cryoprotective agents, protecting cells from crystallization, and placing them right after in liquid nitrogen tanks, where the temperature is around -198 ° Celsius. Reagents and containers are provided by different companies. Then stored in IVF clinics or Cryo-banks tanks. Biomaterial can be frozen for decades.

Patients

Females of any age and health conditions, and everyone who has decided to delay their parenthood or has unexpected health issues, Unfortunately, Although it includes a lot of groups of women, it is still limited to certain individuals, including genetically sterile ones or women in menopause.

Outcome

it showed that since 2021 year, a 2% rise up to 3.3% was seen in Georgian female patients who stored their biomaterial in any way and it correlates to worldwide data.

Conclusion

The beliefs in Planned oocyte cryopreservation among women in Georgia and other countries are consistent, but commitment grow daily. This observational research gives us an up-to-date view from the past 3 years.

Infertility, ART and Fertility preservation

Exploring Assisted Reproductive Technology (ART) Outcomes in Female-to-Male Transgender Individuals

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Context:

The transgender community has gained increasing visibility and acceptance in recent years, prompting greater attention to the unique health needs of transgender individuals.A significant aspect of this care involves addressing the fertility preservation(PF) concerns of transgender men.Therefore, there has been a growing interest in improving the accessibility and effectiveness of FP for transgender men, but currently published data on PF outcomes resulting from ART in this selective group are limited.
Objetive:This study seeks to investigate FP outcomes in transgender male compared to cisgender females.

Methods:

This retrospective investigation included 19 transgender males and 26 cisgender women who underwent ovarian stimulation from January 2021-June 2023.Transgender male participants were referred for FP prior to initiating therapy with testosterone, while cisgender women underwent ovarian stimulation for oocyte donation.Statistical analyzes were performed to compare data related to ART and FP outcomes in the two distinct groups of participants.

Results:

Basal FSH levels(6,26±1,7mIU/mL), antral follicle account(22,4±5,6) and anti-mullerian hormone(4,37±1,9ng/mL) of all transgender males were identical compared with cisgender women($p>0.05$).Notably, transgender males were significantly younger(21,7±1,1 vs. 27±1,3years;$p<0.05$).While the amount of FSH required for stimulation was also significantly lower in transgender males compared to cisgender females(1317±324 IU vs. 1765±434 IU, $p<0.05$), the duration of stimulation was similar between the two groups(9.05±1.3 vs. 9.38±1.3 days, $p<0.05$).The peak estradiol levels were comparable in both groups($p>0.05$).No significant differences existed in the number of recovered oocytes, mature MII oocytes, or maturity rates ($p>0.05$).

Conclusions:

FP is an essential component of comprehensive health care for transgender men, enabling them to make informed decisions about their reproductive future. As medical knowledge and technology continue to advance, it is imperative to stay updated on the latest developments in this field to ensure that these individuals have access to the most effective and inclusive FP options possible. As we have seen, transgender men exhibit a highly favorable response to ovulation stimulation before starting testosterone therapy. Consequently, oocyte cryopreservation emerges as a viable and effective method to safeguard their fertility, allowing potential biological parenthood in the future.

Menopause

Real World Experience of the Menopause Treatment Tool (MTT): Preliminary results from an International Study with Health Care Professionals (HCPs) and symptomatic, potentially menopausal, women (MW)

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Context
Despite research supporting Menopause Hormonal Therapy (MHT) for MW, its use continues to decline in most of Europe. Experts identified a need for global tools to assess MHT s benefit/risk ratio in symptomatic climacteric women to aid HCPs decisions regarding MHT eligibility.
Objective
This study assessed the practicality and validity of the MTT in real-world clinical settings across Europe and US by testing 2 tools: one completed by MW and focused on menopausal symptoms and risk factors (MTT-W) and one for HCPs (MTT-HCP) to use in consultation with MW and focused on symptoms, risk level (no/low/moderate/high) and suggested clinical diagnostic and prescribing actions.
Methods
Participants: 49 HCPs across Switzerland, Germany, Italy, Poland, Spain, UK and US used either MTT-HCP or MTT-W during consultations with 172 suspected MW.
Intervention: Non-interventional study
Main outcome measures: After each visit feedback forms were collected from HCPs and MW and analyzed descriptively; HCPs were interviewed for further insights and transcripts were analyzed for themes.
Results
8 primary care physicians (UK, US only) and 41 gynaecologists (all countries, except UK), with an average of 13 years of practice, participated. MW were between 45 and 60 years (mean: 52 years).
From 160 HCP feedback forms, both MTT-HCP and MTT-W were found convenient (n=126;79%), valuable for discussing menopausal symptoms and MTT risks with MW (n=141;88%) and improved interactions with MW (n=122;76%). No new symptoms/risks were suggested; HCPs reported that suggested clinical actions in the MTT-HCP aligned with current guidance. 45%(n=22) of HCPs preferred MTT-HCP; 27%(n=13) preferred MTT-W; 29%(n=14) had no preference. Dependent on country, HCPs suggested electronic versions could enhance efficiency by integrating with electronic patient records.
Based on MW feedback forms (MTT-W n=56; MTT-HCP n=100), MTT-W helped MW consider symptoms pre-consultation (n=50;89%), instilled confidence in HCPs having relevant details for decision-making (n=45;80%) and facilitated discussions with their HCP (n=42;75%). Both MTT-W and MTT-HCP provided MW with more confidence in treatment decisions (n=56;82, respectively; 82%).
Conclusions
Results suggest both MTT-HCP and MTT-W should be available in electronic and paper formats for HCPs to choose based on specific needs. The MTT enhanced discussions between HCPs and MW and assessment of MHT benefits/risks, boosting confidence in MHT decisions.

Menopause

OASIS 4 study design: a Phase 3 trial assessing the efficacy and safety of elinzanetant in the treatment of vasomotor symptoms caused by adjuvant endocrine therapy for breast cancer

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Context
Vasomotor symptoms (VMS) are common side-effects experienced by women receiving adjuvant endocrine therapy for hormone receptor-positive (HR+) breast cancer that can have a substantial impact on quality of life and may lead to the discontinuation of therapy. Hormone therapy is contraindicated in women with HR+ breast cancer, and there is an unmet need for well-tolerated and effective nonhormonal treatments to safely address these symptoms. Elinzanetant is a selective neurokinin-1,3 receptor antagonist currently being evaluated for the treatment of VMS associated with menopause in the Phase 3 OASIS programme.
Objective
To evaluate the efficacy and safety of elinzanetant in the treatment of VMS caused by adjuvant endocrine therapy in women with or at high risk of HR+ breast cancer.
Methods and interventions
OASIS 4 (clinicaltrials.gov identifier: NCT05587296) is an ongoing, multicentre, multicountry, double-blind, randomised, placebo-controlled, Phase 3 study. Following a 6-week screening period, approximately 405 participants will be randomised at a 2:1 ratio to receive either elinzanetant for 52 weeks or a matching placebo for 12 weeks followed by elinzanetant for 40 weeks. After treatment, participants will undergo a 4-week follow up.
Patients
Women aged 18 70 years receiving tamoxifen or aromatase inhibitors with a personal history of or a high risk of developing HR+ breast cancer. Participants recording at least 35 moderate or severe VMS over 7 days are suitable for inclusion.
Main Outcome Measures
Primary endpoints are the mean change in moderate or severe VMS frequency from baseline to weeks 4 and 12. Key secondary endpoints are mean change in Patient-Reported Outcomes Measurement Information System Sleep Disturbance Short Form (PROMIS SD SF) 8b and Menopause-Specific Quality-of-Life (MENQOL) questionnaire from baseline to week 12. Other secondary endpoints are mean change in moderate or severe VMS severity from baseline to weeks 4 and 12 and moderate or severe VMS frequency from baseline to week 1 and over time. Primary and key secondary endpoints will be analysed using a mixed model with repeated measures. Safety will be primarily assessed using adverse event reporting throughout the duration of the study.

Menopause

Estetrol (E4): A Promising New Treatment for the Spectrum of Menopausal Symptoms

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Context:

Estetrol (E4), a Native Estrogen with Selective Tissue activity (NEST) with limited impact on metabolic parameters.

Objective:

Over the last 20 years extensive research was conducted to understand the properties and potential clinical uses of E4. Here we present key findings and new insights.

Methods:

Narrative review of published literature.

Results:

E4, a human fetal estrogen first described in 1965, was only recently recognised as a therapeutic agent. Since 2021 E4 is approved in a combined oral contraceptive and clinical studies are ongoing for the relief of vasomotor symptoms (VMS) in postmenopausal (PM) women. Estrogen effects are primarily mediated through estrogen receptors (ERs), ER± and ER², via genomic modulation in the nucleus, and rapid non-genomic membrane signalling by estrogen/ER complexes. E4 binds to ER± and ER² with a 4 to 5-fold preference for ER±. Like E2 it induces transcriptional activation in the nucleus via classical and non-classical genomic pathways. The binding of E4 and E2 to the ER± ligand binding domain results in similar conformational changes in the receptor. Although E4 is less potent, the recruitment and binding patterns of coregulators to ER± are similar. Nuclear ER± activation by E4 mediates many of the positive estrogenic actions (i.e. epithelial proliferation in endometrium and vagina, prevention of bone demineralization, glucose homeostasis, and cardio protection), having implications for its potential use in menopause. 12-week treatment with E4 in PM women led to improvement in severity and frequency of VMS and other menopausal symptoms and resulted in a reduction in markers of bone turnover. Unlike E2, E4 does not activate signalling in all tissues, mitigating some of the unwanted effects of estrogen treatment on non-target tissues such as the breast. Preclinical data indicate that E4 has a weaker potency to induce human breast cancer (BC) cell growth compared to E2. Clinical data demonstrate the pro-apoptotic effect on tumor tissue in women with ER+ early BC and anti-tumor effects in PM women with ER+/HER2-BC. E4 is primarily conjugated. Unlike other estrogens, E4 is not metabolized by cytochromes P450 enzymes into oxidized or hydroxylated metabolites associated with DNA damage or thrombin generation. Notably, E4 exhibits a neutral hemostatic profile.

Conclusion: Extensive preclinical and clinical research demonstrate that E4 is a unique and safer estrogen for therapeutic use.

Menopause

Estetrol (E4), a Promising New Treatment for Menopausal Vasomotor Symptoms: Beneficial Lipid and Carbohydrate Metabolism in a Phase 3 Randomized, Double-blind, Placebo-Controlled Trial

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Context:

Estetrol (E4), a Native Estrogen with Selective Tissue activity (NEST), is in clinical development for menopausal vasomotor symptoms (VMS) in postmenopausal (PM) women. A previous phase 2 trial and two phase 3 trials in PM women demonstrated that E4 was effective for the treatment of VMS.

Objective:

Here, we present the results on lipid and carbohydrate metabolism from one of the phase 3 trials (E4Comfort I).

Methods:

Randomized, placebo-controlled, double-blind phase 3 trial conducted in Europe, Latin America, Russia, and North America. Blood samples for lipid and carbohydrate metabolism were taken at baseline and Week 12 (W12) and analysed by a central laboratory. Mean changes from baseline to W12 were calculated. Statistical analyses of changes from baseline to W12 compared to placebo were performed using covariance analysis.
Patients: 640 postmenopausal women, aged 40 65 years.
Interventions: 12-week daily treatment with E4 15 mg (n=213), E4 20 mg (n=213), or placebo (n=214).
Main outcome measures: Lipid parameters included total cholesterol (total C), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C), total C/HDL-C ratio, triglycerides (TG) and lipoprotein (a). Parameters for carbohydrate metabolism included fasting plasma glucose, insulin, glycated haemoglobin (HbA1c) and homeostasis model-assessment-estimated insulin resistance (HOMA-IR).

Results:

Statistically significant changes ($p<0.05$) from baseline at W12 were observed for cholesterol/HDL ratio (decrease), HDL-C (increase), and lipoprotein (a) (decrease) for both E4 15 mg and 20 mg compared to placebo. Statistically significant decreases in LDL-C and increases in TGs were observed only for E4 15 mg compared to placebo. TGs were numerically increased with E4 20 mg, but not statistically different from placebo. Reductions in fasting plasma glucose and HbA1c from baseline to Week 12 were statistically significant with E4 15 mg and 20 mg compared to placebo. Decreases in insulin levels and HOMA-IR for the E4 treatment arms compared to the placebo arm did not reach statistical significance.
Conclusion: 12-week treatment with E4 demonstrated beneficial effects on the lipid profile with increased HDL-C and decreased total C/HDL-C ratio, LDL-C and lipoprotein (a). Beneficial effects were also seen on the carbohydrate metabolism with decreased fasting plasma glucose and HbA1c associated with an obvious trend to decrease in insulin and HOMA-IR.

Menopause

“Menopausando”: social media as a health education strategy for women transitioning into menopause and postmenopause

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CONTEXT: Health education plays a crucial role in providing information and proper support to women going through menopause. With the advancement of technology and the increasing use of social media, these platforms have become a promising tool to reach a wide audience. OBJECTIVE: To describe the number of accesses and registrations on social media platforms - website, Facebook, Instagram, Spotify, and YouTube - being used as a health education strategy targeting women transitioning into menopause or in the postmenopausal period. METHODS: The Gynecology Department of the Obstetrics and Gynecology Division at the School of Medicine of the University of São Paulo, Brazil, conducted a descriptive and exploratory study with a qualitative approach between May and June 2021. For the pre-implementation phase of the channels, an online form was created using Google Forms and shared on social communication platforms. The form was filled out by women in menopause and collected sociodemographic data as well as responses to questions about the significance, recognition, and experience of this period. Based on this research, medical students created social media channels and a website linked to the gynecology discipline at FMUSP, with content on health education for the transition to menopause and postmenopause. RESULTS: The main keywords associated with the menopausal transition period were identified in the qualitative analysis, including “mood changes,” “hot flashes,” “low libido,” “vaginal dryness,” “irritability,” “fatigue,” “discomfort,” “aging,” “insomnia,” “weight changes,” and “changes.” Based on these results, a website called www.menopausando.com.br was created, along with Instagram and Facebook pages, a podcast available on Spotify, and a YouTube channel, all focused on the health education of women going through the transition and postmenopause. Currently, the website has 21,000 users; Instagram has 1,296 followers; Facebook has 105 followers; Spotify has 2,560 streams, with a total of 10 published episodes; the YouTube channel, created in October 2022, has 26 subscribers and 122 views. CONCLUSION: The project reaches its target audience, composed of Brazilian women between 45 and 55 years old. Thus, the created media channels provided better communication and interaction between the academia and the community, establishing an important extension tool for the School of Medicine at the University of São Paulo.

Menopause

Decreased LH levels may be a clue to how resistance training reduced vasomotor symptoms in a randomized controlled trial

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Context:

Around menopause, vasomotor symptoms (VMS) are common and can effectively be treated with menopausal hormone therapy (MHT). Since physically active compared to inactive women previously have been found to experience fewer VMS, physical exercise has been proposed as an alternative treatment. In our randomized controlled trial on resistance training to treat VMS; symptoms were reduced by 44% in the intervention group but remained the same in the control group.

Objective:

To propose a mechanism to explain how resistance training reduced VMS and to assess if luteinizing hormone (LH) was affected in accordance with the proposed mechanism.

Methods:

A parallel group randomized controlled open trial. Blood samples were drawn for analysis of LH at baseline and after 15 weeks.
Patients: We enrolled 65 postmenopausal women with at least 28 moderate/severe VMS each week who did not exercise regularly and did not use MHT.
Intervention: Resistance training performed three times/week for 15 weeks, one session/week was supervised by a physiotherapist. The training program consisted of eight exercises performed at 8-12 repetitions maximum, two sets each. Women who fulfilled at least a mean of two sessions/week were classified as compliant to the intervention. The control group remained inactive but did not receive any sham-intervention.
Main outcome measurement: The primary outcome was change in LH from baseline to week 15.

Results:

LH decreased significantly in the compliant intervention group compared with the control group (-4.0±10.6 versus 2.9±9.0, $p = 0.028$ with Mann-Whitney U test).

Conclusions:

We propose that endogenous opiods such as ²-endorphin or dynorphin produced during resistance training decreased VMS by stimulating KND³-neurons to release neurokinin B to the hypothalamic thermoregulatory centre. Through effects on KND³-neurons, ²-endorphin could also inhibit GnRH and thereby decrease the production of LH. The significantly decreased LH in the compliant intervention group compared with the control group was in accordance with the proposed mechanism.

Menopause

Characterising treatment pathways for endocrine therapy-related menopausal symptoms in UK women

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Context
Over 80% of women taking endocrine therapy (ET) for breast cancer experience induced menopausal symptoms, impacting their quality of life. Hormone therapy (HT) is contraindicated and current non-hormonal options are suboptimal. There is little evidence on medication use for ET-related menopausal symptoms.
Objective
To describe treatment pathways for ET-related menopausal symptoms in UK women with breast cancer or at high breast cancer risk.
Methods
This retrospective cohort study conducted in UK Clinical Practice Research Datalink Aurum (01/2009 03/2021) investigated treatment pathways in patients aged 18 65, indexed at ET initiation. Treatment classes of interest were HT, non-HT products commonly used for menopausal symptoms, and benzodiazepines. A gap of <30 days between prescriptions indicated a treatment combination; e30 days indicated a change of treatment line. Sensitivity analyses with increased gaps of 60, 90, and 180 days were conducted. Pathways with “d30 women were excluded from analyses.
Results
Overall, 40956 patients initiated ET, most (67.6%) were aged >50. Common comorbidities included anxiety (2.1%), hypertension (2.0%), and depression (1.9%). Treatment pathways were reported in 8350 patients (20.4%). Most patients (n=6976, 83.5%) had only one treatment line, of which the most common were antidepressants (n=3216, 38.5%), anticonvulsants (n=1751, 21.0%), and benzodiazepines (n=1328, 15.9%). Two treatment lines were reported in 1374 patients (16.5%)

Menopause

Characterising treatment pathways for natural menopausal symptoms in UK women

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Context
Menopausal women may experience vasomotor symptoms (VMS), sleep disturbances, and mood changes. Treatments include hormone therapy (HT) and nonhormonal treatments (non-HT), with clonidine as the only UK-approved non-HT for VMS. Real-world evidence on medication use for menopause symptoms is limited.
Objective
To describe treatment pathways for natural menopause symptoms in UK women.
Methods
This retrospective cohort study was conducted in Clinical Practice Research Datalink Aurum (01/2009-03/2021). Treatment pathways (on- and off-label treatments) used for menopause symptoms were assessed in women aged 40 65 after the first recorded diagnosis of natural menopause. A gap of <30 days between prescriptions indicated a combination of treatments; e30 days indicated a switch. Sensitivity analyses with increased gaps of 60, 90, and 180 days were conducted. Treatment pathways used by fewer than 30 women were excluded from the analysis.
Results
The study included 214,374 women diagnosed with natural menopause. Most women (57.2%) were aged 50 59. Chronic comorbidities included hypertension (1.5%) and osteoarthritis (1.4%). In total, 37.2% (n=79,826) used a treatment pathway that included 30 or more women. Of these, 55,761 women (69.9%) had only one treatment line

Menopause

Design of OASIS-1 and -2: Phase 3 trials to assess the efficacy and safety of elinzanetant for the treatment of vasomotor symptoms related to menopause

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Context
Vasomotor symptoms (VMS) are some of the most common and bothersome symptoms associated with menopause and there is an unmet need for additional safe and effective treatment options. Elinzanetant (NT-814) is a selective NK-1,3 receptor antagonist that has previously shown efficacy in Phase 2 studies in treating VMS, sleep disturbance and depressive symptoms associated with menopause.
Objectives
Pivotal Phase 3 studies OASIS-1 and -2 will evaluate the efficacy and safety of elinzanetant 120 mg for the treatment of VMS associated with menopause as well as the effect on sleep, depressive symptoms, and menopause-related quality of life.
Methods
OASIS-1 and -2 are Phase 3, multi-centre, multi-country, placebo-controlled, double-blind, randomized, parallel group intervention studies. In each study, approximately 370 participants will be randomised at a 1:1 ratio.
Patients
Postmenopausal women between 40 65 years of age who experience at least 50 moderate or severe VMS over 7 days are included.
Interventions
Participants receive either elinzanetant 120 mg for 26 weeks or placebo for 12 weeks followed by elinzanetant 120 mg for 14 weeks. Treatment is taken orally once daily in both arms.
Main outcome measures
Efficacy endpoints will use patient-reported outcomes such as the hot flash daily diary, which will be collected using an electronic hand-held device. The primary efficacy endpoints are the mean change in frequency of moderate to severe VMS from baseline to weeks 4 and 12. Key secondary endpoints include mean change in: severity of moderate to severe VMS from baseline to weeks 4 and 12 (primary endpoints in the US); frequency of moderate to severe VMS from baseline to week 1; PROMIS SD SF 8b (Patient-reported Outcomes Measurement Information System Sleep Disturbance Short Form 8b) total score from baseline to week 12; and MENQOL (Menopause-specific Quality Of Life scale) total score from baseline to week 12. Primary and key secondary endpoints will be analysed using a mixed model with repeated measures. Adverse events will be reported throughout treatment and follow-up to evaluate the safety of elinzanetant 120 mg.
Conclusions
OASIS-1 and -2 will assess whether elinzanetant is an effective and safe treatment for VMS in postmenopausal women and examine its impact on sleep, mood and quality of life.

Menopause

Improved Female Sexual Dysfunction following Vaginal Erbium Laser Treatment

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Context
The genitourinary syndrome of the menopause is a common condition that tends to be associated with female sexual dysfunction.
Objective
To investigate the effect of vaginal erbium laser treatment on female sexual dysfunction following one and two fractional laser treatment sessions respectively.
Methods
A validated female sexual function index (FSFI) questionnaire was administered to patients attending for vaginal erbium laser treatment sessions over a two year period from 2018 to 2020. The FSFI questionnaire was administered before the treatment session and after one or two fractional laser treatment sessions. The patient s informed consent was taken at every stage and the study was carried out according to the WMA Declaration of Helsinki criteria.
Patients
A total of 46 study participants were recruited into the study, 21 of which had only one laser treatment session and 25 had two laser treatment sessions.
Interventions
Baseline data characteristics were recorded at the first visit. This data together with the results of the questionnaires administered at each visit were inputted into the SPSS statistical software package version 28. The Wilcoxon Signed Rank test was used to test for any statistically significant differences between female sexual function before and after one treatment, between the first and second treatment, as well as between baseline and two treatments.
Main Outcome Measures
FSFI scores before and after fractional laser treatments by sex function domain.
Results
The one session group showed improved outcomes reaching statistical significance in the domains of desire, arousal, lubrication and orgasm with p-values of 0.018, 0.037, 0.032 and 0.043 respectively, but no statistical significance reached with the satisfaction with sex and painful sex domains.
The two sessions group showed most statistically significant improvement after two sessions with the arousal (p=0.048), lubrication (p=0.018), satisfaction with sex (p=0.017) and painful sex (p=0.041) domains. No statistically significant results were obtained when comparing sexual function between after one and after two sessions.
Conclusions
The results obtained suggest two distinct categories of patients. The patients having had one laser treatment were good responders and hence did not seek any further treatment. On the other hand, there were a group of patients which were slower responders and needed two sessions to experience improved outcomes.

Menopause

The Effect of Estetrol (E4) on Patient-Reported Outcome Measures in Postmenopausal Women Results from a Phase 3 Trial

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Context:

Estetrol (E4), a Native Estrogen with Selective Tissue activity (NEST), is in clinical development for menopausal vasomotor symptoms (VMS) in postmenopausal (PM) women. A previous phase 2 trial and two phase 3 trials in PM women demonstrated that E4 was effective for the treatment of VMS.

Objective:

Here, we present the patient reported outcomes from one of the phase 3 trials (E4Comfort I).

Methods:

Randomized, placebo-controlled, double-blind phase 3 trial conducted in Europe, Latin America, Russia, and North America. Participants completed the Menopause-Specific Quality of Life (MENQOL) questionnaire at baseline and week 12 (W12) and the Clinical Global Impression (GCI) questionnaire and weeks 4 and 12. Genitourinary syndrome of menopause (GSM) symptoms were self-assessed at baseline and W12. Statistical analyses on changes from baseline when applicable and difference from placebo were performed using analysis of covariance.
Patients: 640 PM women, aged 40 65 years.
Interventions: 12-week daily treatment with E4 15 mg (n=213), E4 20 mg (n=213), or placebo (n=214).
Main outcome measures: MENQOL scores: presence and bothersomeness of vasomotor, psychosocial, physical, and sexual functioning symptoms (6-point scale); CGI scores: overall improvements, including those due to drug treatment (7-point scale); GSM scores: vaginal dryness, vaginal/vulvar irritation/itching, dysuria and vaginal pain associated with sexual activity (4-point scale) and presence of vaginal bleeding associated with sexual activity.

Results:

Significant improvements at W12 versus placebo were found in total MENQOL score and vasomotor, psychosocial, and sexual functioning symptoms with E4 15 mg and E4 20 mg, and in physical symptoms with E4 20 mg ($p<0.05$). A significantly higher percentage of participants rated their condition as much improved or very much improved in the E4 15 mg (52.9% and 73.3%) and E4 20 mg (59.8% and 77.8%) groups versus placebo (27.9% and 47.0%) at weeks 4 and 12, respectively ($p<0.0001$). GSM symptoms decreased in all treatment groups. Notably, E4 15 mg showed a significant reduction at W12 compared to placebo in vaginal pain during sexual activity (-0.23; $p=0.0142$) and vaginal dryness (-0.31; $p=0.0030$).
Conclusion: 12-week treatment with E4 demonstrated beneficial effects on QoL and GSM symptoms and provided clinically meaningful improvements in PM women with moderate to severe VMS.

Menopause

Quality of life and associated factors among postmenopausal women during the COVID-19 pandemic: a cross-sectional study

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A pandemic caused by the coronavirus (COVID-19) resulted in the declaration of a state of emergency, including social distancing, curfew, and lockdown city. At the same time, the COVID-19 vaccine was generally distributed on June 2021. This study aimed to assess the prevalence of postmenopausal women with poor quality of life and the associated factors during the COVID-19 pandemic. A Cross-sectional study was performed between October 2021 and May 2022. The menopausal women were recruited and completed the questionnaires, including quality of life (QOL), physical activity, well-being, and anxiety assessment. In addition, baseline characteristics, COVID-19 infection, and vaccination of COVID-19 were also evaluated. 453 Thai postmenopausal women were included, with a median age of 58 (41, 69). The prevalence of poor QOL was 55.85%. After, Stepwise Logistic Regression analysis of factors associated with poor QOL was high Menopausal Rating Scale, low well-being, low education level, and physical inactivity. While higher education, alcohol drinking, and early menopausal age before 45 were the protective factors. However, the COVID-19 infection or vaccination did not affect the QOL among menopausal women during the pandemic. Conclusion: During the pandemic, poor QOL among menopause was commonly associated with the severity of menopausal symptoms, physical inactivity, low well-being status, and education level.

Obstetrics 1

Pregnancy outcome following treatment of premalignant lesion of the cervix in Southeast Nigeria - a retrospective case-control study

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Context:

Treatment of cervical pre-cancers involves ablative and excisional therapies, which can potentially affect future pregnancy outcomes of women.

Objectives: This study evaluated the effect of cervical pre-cancer treatment on second-trimester miscarriages and preterm births.

Method: A matched case-control study in which 373 women who had a pregnancy after cervical pre-cancer treatment were matched with 373 controls. McNemar Chi-square was used to compare the prevalence of second-trimester miscarriage and preterm birth between the study group and the matched controls. Conditional logistic regression analysis was done to determine the risk factors for second-trimester miscarriage and preterm birth.

Main outcome measures: Second-trimester miscarriages and preterm births

Results:

Second-trimester miscarriages and preterm births were higher in women who had cervical pre-cancer treatment (AOR: 2.05, 95% CI: 1.174 3.693, p: 0.01) and (AOR: 2.74, 95% CI: 1.591 4.902, p: 0.0001) respectively. In addition, large loop excision of the transformation zone (LLETZ) of the cervix increased the odds of second-trimester miscarriage (AOR: 1.22, 95% CI: 1.034 1.441, p: 0.019) and preterm birth (AOR: 2.98, 95% CI: 1.793 3.965, p: 0.001). Cryotherapy and thermocoagulation were not associated with increased miscarriage and preterm birth.

Treatment to pregnancy interval of e 12 months decreased the odds of second-trimester miscarriage (AOR: 0.605, 95% CI: 0.502 0.808, p: 0.031) and preterm birth (AOR: 0.484, 95% CI: 0.317 0.738, p: 0.001).

Conclusion: There is an increased odds of second-trimester miscarriage and preterm birth in women treated with LLETZ. A treatment to pregnancy interval of “e 12 months reduces this odd. Ablative therapies do not increase the odds of miscarriages. Women who get pregnant after LLETZ therapy, and especially those who get pregnant within 12 months of LLETZ therapy, may be considered for cervical cerclage to reduce the incidence of miscarriage and preterm births as well as other prophylactic measures to improve fetal outcome should preterm delivery occur and preterm births. This information could guide decisions on the choice of method of treatment for cervical pre-cancer in women of childbearing age.”

Obstetrics 1

Fetal Outcomes in Pregnancies Post Liver and Renal Transplantations: Tertiary Care Center Experience, Saudi Arabia

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Context:

Renal and liver transplantations represent some of the most common procedures performed worldwide, and they are associated with an increased burden on patients. Pregnancy after solid organ transplants can lead to complications for both mother and fetus.

Objective:

The aim of our study is to assess fetal outcomes and associated complications post renal and liver transplants.

Methods:

This was a retrospective study in which electronic medical records of all women who underwent renal and liver transplantation and got pregnant between January 2018 and January 2023 were reviewed for transplant information, pregnancy information, and fetal outcome and complications.
Patients:
A total of 40 patients and 40 pregnancies were included in our analysis. Patients who did not follow up in KFSHRC for their pregnancy were excluded from the study.
Main Outcome Measures:
Still birth, neonatal death, miscarriage, mode of delivery, IUGR, NICU admission, birth weight and congenital anomalies

Results:

Mean maternal age: 31 ± 4.5 years. There were an equal number of renal and liver transplant recipients. Living donors accounted for 70% of all transplants. The median time from transplant to pregnancy was 24 months. The fetal outcomes were as follows: miscarriages (12.5%), stillbirth (5%), induced termination of pregnancy (7.5%), caesarean section (67.5%), mean gestational age 36.5 ± 3.9 weeks, mean birth weight 2193 ± 745 grams, preterm birth (40%), IUGR (15%), congenital anomalies (2.5%), and admission to the NICU (35%).
Conclusion:
While pregnancy post-renal and liver transplant is relatively safe, there are multiple concerns regarding miscarriages, low birth weight, and NICU admissions. Further prospective and interventional studies are needed to compare this subgroup of patients to the general population, identify risk factors that can lead to poor fetal outcomes, and provide long-term follow-up of babies post-delivery.

Obstetrics 1

Fructosamine as a screening test for gestational diabetes

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Background: All organizations use variable glucose criteria for diagnosis of gestational diabetes (GDM). However, they all involve glucose ingestion. American college of Obstetrics and Gynecology (ACOG) and American Diabetes Association (ADA) recommend 2 step testing: 1) 1-hour glucose level on 50gm glucose ingestion at any time during the day (1-hour OGTT). 2) 3-hour OGTT with 100gm glucose ingestion after overnight fast in pregnant women with 1-hour OGTT glucose >140 mg/dl. 3-hour OGTT requires preparation with least daily intake of 150gm carbohydrate for 3 days before testing. Many women are also hesitant of getting tested because of nausea and/or vomiting on glucose ingestion. Thus, none of the tests are convenient.

Objective:

We examined utility of serum Fructosamine as a screening test for diagnosis of GDM. Subjects and methods: Random glucose, Fructosamine (mcM/l) and HbA1c (%) were determined at 24-30 weeks in 210 pregnant women, age 24-40 years, along with 1-hour OGTT and then again with 3-hour OGTT in pregnant women with abnormal 1-hour OGTT. Included for comparison were 21 age matched nonpregnant women. Continuous glucose monitoring (CGM) for 2 weeks was performed in 6 women without GDM, including both normal 1-hour OGTT, and abnormal 1-hour but normal 3-hour OGTT, 5 women with abnormal 3-hour OGTT and 6 nonpregnant women.

Results:

Fructosamine levels (192± 4) were lower ($p<0.01$) in nondiabetic pregnant women when compared with age matched nonpregnant women (224 ± 5). Cutoff Fructosamine between groups was 200. Glucose and HbA1c were not significantly different amongst groups. Fructosamine in 29 of 57 pregnant women with abnormal 1-hour but normal 3-hour OGTT were < 200, similar to nondiabetic pregnant women. Fructosamine in 32 pregnant women with abnormal 3-hour OGTT ranged between 173 to 228. However, Fructosamine levels in 3 pregnant women with abnormal 3-hour OGTT though normal CGM (70-140 mg/dl) matched levels in nondiabetic pregnant women (<200) suggestive of false positive OGTT whereas Fructosamine levels were >200 in 2 women with both abnormal 3-hour OGTT and abnormal CGM, consistent with true GDM. Conclusion: This preliminary study suggests that CGM may be the most accurate test for diagnosis of GDM. Fructosamine may be as accurate as CGM and more accurate than both OGTTs. Importantly, it is a simple and convenient test without requiring glucose ingestion or preparation prior to OGTT. Further studies need to confirm this finding.

Obstetrics 1

Oral glucose tolerance test. What do Turkish pregnant women expect?

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Context:

Due to the frequency of gestational diabetes mellitus (GDM) and its maternal and fetal effects, universal screening during pregnancy is recommended in most countries' guidelines. In Turkey, hesitancy about test consent draws attention because of misinformation about screening and its effects on pregnant women. It seems negative impact on GDM screening.

Objective:

To analyze the OGTT preferences of Turkish pregnant women and the factors affecting their preferences.

Methods:

A questionnaire study

Patients: Total 722 pregnant women were requested to participate in this study between February 2017 and June 2021.

Interventions: After obtaining verbal consent from 656 pregnant women who applied for fetal anatomical screening at 20-22 weeks of pregnancy, a questionnaire consisting of 16 questions was conducted. In the questionnaire, the demographic status of pregnant women, their educational status and their personal opinions about sugar loading tests in pregnancy consisting of 10 questions were asked. The questionnaire consisted of 6 demographic questions and ten multiple choice questions about test perception.

Main Outcome Measures: Turkish pregnant women's OGTT preferences and factors affecting their preferences

Results:

As the education level increases, the rate of those who are aware of the oral glucose tolerance test (31/104(29.8%) vs 51/65(78.5%, p=0.036), the rate of those who believe that the test is not harmful (15/104(14.5%) vs 52/65(80%, p=0.024), the rate of those who are aware that universal screening is approved by the health authorities (8/104(7.6%) vs 36/65(55.4%, p=0.036), and the rate of those who believe that gestational diabetes can be harmful to both themselves and their baby (26/104(25%) vs 9/65(13.8%, p=0.047) increase significantly. The rate of those who wanted to be tested before questionnaire was (9/104) 8.6% in those with a low level of education, while it was (46/65) 70.7% in those with a high level of education. The difference between two groups were statistically significant (p=0.17).In their preferences, physicians who are popular on TV are effective in those with low education level, and obstetricians in those with higher education.

Conclusion: Misinformation about the oral glucose tolerance test in popular media environments has a significant impact on the preferences of pregnant women about the test in Turkey.

Obstetrics 1

Visceral Leishmaniasis in a twin pregnancy in Greece

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Context
Leishmaniasis is a "neglected" vectorborne disease, presenting with a wide spectrum of clinical manifestations from cutaneous ulcers to multisystemic disease. In Greece, L. infantum is the responsible species for visceral leishmaniasis.
Methods
A 32-year-old woman presented at 22+6 weeks of gestation of a dichorionic diamniotic twin pregnancy, with a recent onset of symptoms of fatigue, fever with rigors, anorexia, and right flank pain. Laboratory investigations depicted dysregulation of all three cell lines, elevated levels of liver transaminase levels, increased CRP, and hypergammaglobulinemia. Blood, urine, cervical cultures, SLE autoantibodies, and an abdominal ultrasound came out negative. An obstetric ultrasound confirmed a DCDA pregnancy of 22+6 weeks with normal measurements. The patient was hospitalized and a thorough panel of IgG/IgM antibodies for TORCH and tropical diseases was ordered. The results of leishmania-positive IgG and IgM antibodies raised the clinical suspicion of visceral leishmaniasis, which was confirmed by a positive rK39 antigen. Bone marrow aspiration was denied by the patient. Considering the combination of her clinical presentation, the positive rK39 and pancytopenia as strong criteria for the diagnosis of visceral leishmaniasis, Amphotericin B (amBisome) was administered for seven days, with a total dose of 21mg/kg.
Results
The patient showed a clinical and laboratory improvement after 48 hours of treatment with amBisome and she was discharged after the seven-day treatment. Her reassessment, a month later, revealed normal laboratory exams and a reassuring growth scan for both embryos. She delivered by c-section at 36 weeks two healthy neonates. During their first days of life, the neonates were examined for IgG/IgM antibodies against leishmania. The parents did not consent to bone marrow aspiration. The infants became serologically negative within two months after their birth, reassuring their maternal origin. Our patient and her infants remained healthy 12 months after the treatment.
Conclusion
Visceral leishmaniasis should always be included in the differential diagnosis of unknown fever with atypical systematic symptoms during pregnancy, especially in the presence of risk factors and non-conclusive routine laboratory tests. Early diagnosis during pregnancy and treatment with liposome Amphotericin B has been shown to reduce maternal morbidity, vertical transmission, and obstetrical complications.

Obstetrics 1

Postpartum and Birth Experiences of Women using an FDA cleared birth control app

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CONTEXT: The postpartum period is often complex both physically (tiredness, birth trauma and breastfeeding) and mentally. Data from users of fertility apps may help inform users of this app, healthcare professionals and the wider community of postpartum women and medical professionals of what to expect after delivery, how to manage fertility and treat those with postpartum complications.
OBJECTIVE: Gain insights into the experience of users of a fertility app postpartum.
METHODS: In April 2022, app users who had consented to their data being included in anonymised research and had logged the end of a pregnancy in the last 6-24 months were sent an in-app message inviting them to take part in the online survey. The survey consisted of 28 questions relating to birth experience, postpartum feeding, postpartum menstruation, postpartum sexual intercourse and postpartum birth control.
PATIENTS: 2490 recently pregnant individuals
INTERVENTIONS: In-app message inviting survey participation
MAIN OUTCOME MEASURES: Birth experiences, menstruation, breastfeeding, birth control.
RESULTS: 2490 individuals completed the postpartum survey, whereof 49% gave birth in the US and 49% in the UK. 61% had a vaginal delivery and 26% had a cesarean. Most deliveries (87%) were in hospital, 8% were in a birth center, 5% were at home and overall most were without complications (79%). 84% were satisfied with their medical assistance during birth however, 61% were satisfied with medical assistance postpartum. Of the survey respondents, 88% breastfed (at least partly), of whom 73% struggled and 75% of those that struggled would have wanted more support. Within 3 months of giving birth, 26% of survey respondents menstruated, 45% had intercourse within 3 months of birth with condoms being the most popular method of birth control.
CONCLUSION: This is the first analysis of a large cohort of individuals and their postpartum experience from a fertility app. In this cohort although breastfeeding was prevalent, struggling was profound and many participants felt that more support was necessary. Data from popular fertility apps can help detect gaps in care.

Obstetrics 1

Postpartum treatment for Patient with Cesarian Section Delivery ,Renal Agenesi right side , Urethral JJ stent placed on the left side

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Abstract

There is well know relationship between maternal outcome in postpartum patient with renal agenesis and maternal hospital length of stay longer than 3 days.

Findings

As a part of the KOGJ(Clinical of Obstetrics and Gynecology)QKUK (University Clinical Center of Kosovo)C-Section Postpartum unit, we evaluated a 23 year old women with previous C section delivery with renal agenesis ,with urethral JJ stent was placed on the left side(34+6 gestation week) .Immediate postoperative monitoring after caesarean delivery performed in the recovery room ,next day patient came to our unit .Based on the diagnosis of patient the unit start immediate enhanced Recovery after surgery guidelines including Thrombosis prevention ,Prophylaxis against hemorrhage(amount of vaginal bleeding),skin to skin contact, maternal monitoring (vital sign ,blood pressure , heart rate , body temperature, check to make sure uterus is becoming firmer), laboratory testing (complete blood count:WBC:13.5,/mm3 ,RBC:3.36/mm3,HGB:9.9 g/dl ,HCT:29.9 %,PLT:238 /mm3, inflammatory markers C-creative protein :76.3 mg/L within first 3 days ,two days after CRP: 6.3 mg/L, renal function test,urea:2.54 mmol/l ,serum creatinine :67.5 mmol/l urinary analysis :2-4 WBC and urine culture STERILE),renal ultrasonography was used to confirm JJ stent placement realized from ordinary urologist ,pain management ,Bladder catheter(after 24 h monitoring diuresis in our unit we removed catheter in 24 hours, and sensation of the need to pee returned within 5 hours) ,bowel function returned within 3d days ,early ambulation ,early oral food intake , hydration. (intravenous fluids ,and intravenous antibiotics ,lifting , breastfeeding, wound care(monitor of C-section incision to look for signs of any kind of infection),nausea and vomiting ,sexual activity advices.

Conclusion

Harmonization of C section unit care providing the optimum level of care and support for postpartum patient with a renal genesis right side may have successful outcome and speed recovery after cesarean delivery.

Keywords:

Renal Agenesis ,cesarean delivery ,hospital length of stay ,postpartum care ,

Obstetrics 2

Pregnancy Outcomes in Women Post Solid Organ Transplants: Tertiary Care Center Experience, Saudi Arabia

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Context:

Solid organ transplantation is a well-established treatment for various organ failures. Pregnancy in solid organ transplant patients may place an additional load and burden on the mother s health.

Objective:

The aim of our study is to provide a comprehensive analysis of all pregnancies and their outcomes for the mother in solid organ transplant patients.

Methods:

This was a retrospective observational study done in King Faisal Specialist Hospital and Research Center (KFSH&RC) in which electronic medical records of women with solid organ transplantation who got pregnant between January 2017 and January 2022 were reviewed for transplantation information (age during transplant, organ transplanted, function of transplanted organ) and pregnancy information (complications during pregnancy, organ function during pregnancy, pregnancy delivery mode, complications during delivery, and post-delivery).
Patients:
A total of 36 patients and 36 pregnancies were included in the study. Patients who got pregnant but did not follow up in KFSH&RC were not included in the study.
Main Outcome Measures:
Deterioration of graft function during and post pregnancy, maternal complications (gestational hypertension, preeclampsia, gestational diabetes, and thrombocytopenia), and mode of delivery

Results:

Mean maternal age: 27.4 ± 4.8 years Renal transplants (43%) and liver transplants (49%) accounted for the majority of transplants, with lung and heart transplants accounting for 3% each. Living donor transplants accounted for 62% of total transplants. The median time from transplant to pregnancy was 29 months. 65% of patients had previous pregnancies, and three of the total pregnancies were IVF-induced. Six patients had graft function deterioration during pregnancy, with five of them resolving postpartum. The rate of pregnancy outcomes was as follows: miscarriage (17%), cesarean section (64%), preeclampsia (15.5%), gestational hypertension (22%), gestational diabetes (2%), and thrombocytopenia (6%).
Conclusion:
It is important to address maternal complications during pregnancy counseling and identify interventions to reduce those risks. Further studies are needed to assess the patients attitudes towards pregnancy after solid organ transplants and the associated complications.

Obstetrics 2

New opportunities in the complex therapy of placental dysfunction

Semeniuk Andrii (UA)

[Andrii] CNE

Placental dysfunction (PD) is one of the most common pathological syndromes in obstetrics, which manifests miscarriage pregnancy, preeclampsia, fetal retardation, fetal distress, antenatal death of the fetus.
Optimization of the PD treatment scheme in pregnant women is a priority issue of modern obstetrics. Currently standard therapy does not exist due to individual combination of causative and pathogenetic mechanisms for the development of this complication. Therapy aimed at elimination of the PD manifestations must be comprehensive, pathogenetically grounded. 105 pregnant women participated in the study. The main group (n = 36) - pregnant women with PD, which was accompanied by fetal developmental delay, as a part of complex therapy using drugs, aimed for correction of systemic hemodynamics and local microcirculation, additionally received a drug containing arginine-3000mg, magnesium sulfate - 1000 mg, calcium - 1000 mg, and salicin (willow titrated extract) - 96 mg, which was administered 1 sachet once a day for 20 days.
Comparison group (n = 38) - pregnant women with PD accompanied by PD, who were prescribed treatment for placental dysfunction using drugs aimed at correcting systemic hemodynamics and local microcirculation. Control group (n = 31) - pregnant women with physiological pregnancy.
In 23 (63.9%) pregnant women of the main group, the births occurred through physiological delivery, in 13 (36.1%) by caesarean section. The weight of newborns in the control group was 3225 ± 245 g, in the main group - 2780 ± 293 g., in the comparison group - 2595 ± 195 g (p <0.05).
In the main group women, 31 (86%) newborns were born in a satisfactory condition with an Apgar score of 8-9 points, women in the comparison group 8-9 points on the Apgar scale received 26 (68.4%) newborns, in the control group - 29 (93.5%). The score of 6-7 points was given to 4 newborns (11.1%) of the main group, 9 (23.7%) of the comparison group (p <0.05) and 2 (6.45%) in the control group. 5-6 points on the Apgar scale received 1 (2.8%) newborn main group and 3 (7.9%) newborns in comparison group.
After the course of treatment, the pregnant women of the main group showed positive dynamics of ultrasound criteria with normalization of the amniotic fluid index, improvement of uterine placental-fetal blood flow according to Doppler data. In the women of the comparison group, these indicators remained modified according to the reference values, which required an additional course of treatment. The expediency of inclusion of the preparation containing arginine, magnesium sulfate, calcium and salicin in the scheme of complex therapy of placental dysfunction was proved.

Obstetrics 2

The management options and outcome of women with placenta accreta spectrum.

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Context
Placenta accreta spectrum (PAS) has become a considerable life- threatening obstetric problem due to its maternal mortality and morbidity including massive blood transfusion, urinary tract injury, hysterectomy, and intensive care unit (ICU) admission. Given the increasing rates of CS worldwide, the incidence of PAS will be likely to increase further over time.
Objective
To evaluate management options and outcome of PAS disorders for one year.
Methods
Observational case series.
Patients
Pregnant women suspected with PAS from January to December 2022.
Interventions
They were properly assessed, counseled, and prepared for surgery by experienced surgical team. Laboratory investigations, ultrasound, and doppler preceded the intervention with close liaison with hospital transfusion laboratory and ICU. After delivery of the baby, the placenta was observed for separation with gentle cord traction and infusion of ecbolics and tranexamic acid. In cases of complete separation, bilateral uterine artery ligation was performed. In cases of partial separation, the invaded area of the uterus was resected as a one-step procedure or part of Triple-P followed by repair of the myometrial defect. In case of failure of pharmacological measures to control hemorrhage, intrauterine tamponade (packing, catheter, or Bakri balloon) and/or surgical hemostatic techniques were done as cervical inversion, B-lynch, and lower uterine segment compression sutures. Cesarean hysterectomy was performed if the placenta didn t separate at all after a trial, severe uncontrollable intraoperative bleeding, the woman completed her family, or refusal of conservative management.
Results
Among the 102 women, preoperative probability of invasion was high in 22 (21.6 %) women, intermediate in 50 (49%) women, and low in 30 (29. Placental lacunae were the most prevalent ultrasound finding in 69 women (67.6%). 15 (14.7%) were managed by CS hysterectomy while the remaining 87 (85.3%) women were managed by conservative surgical options. Bilateral uterine artery ligation was the most prevalent procedure in 86 (84.3%). Bladder was injured in 15 (14.7%). No maternal mortality has been occurred.
Conclusion
women with PAS can be managed by either cesarean hysterectomy or uterus preserving surgery. Proper management in a specialist centre with immediate access to blood products and ICU by an experienced multidisciplinary team is of paramount importance to prevent maternal morbidity and mortality.

Obstetrics 2

Use of hormonal testing to assess risk of pregnancy among women presenting for emergency contraception in a clinical trial

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[Brown] [Diana] Eunice Kennedy Shriver National Institute of Child Health and Human Development

Context:

Studies of emergency contraception (EC) do not enroll control groups for ethical reasons and rely on historical or active comparator groups. The availability of over-the-counter oral EC in many countries, including the United States may impact the motivation and risk status of women entering clinical trials.

Objective:

To evaluate pregnancy risk among women enrolling in an EC study.

Methods:

We used standard chemoluminescent assays to evaluate endogenous hormones [estradiol (E2), progesterone (P4), FSH, LH] and liquid chromatography-tandem triple quadrupole mass spectrometry (LC-MS/MS) to simultaneously analyze concentrations of ethinylestradiol (EE), dienogest (DNG), norelgestromin (NGMN), norethindrone (NET), gestodene (GSD), levonorgestrel (LNG), etonogestrel (ENG), segesterone acetate (NES), medroxyprogesterone acetate (MPA), and drospirenone (DRSP), in serum samples obtained at the time of enrollment.

Patient(s):

Women 18-35 with regular cycles and weight e 80kg presenting within 72 hours of unprotected intercourse.

Intervention(s):

Participants provided a blood sample prior to randomization to oral ulipristal acetate or LNG EC.

Main Outcome Measure(s):

Quantification of endogenous and contraceptive hormones.

Result(s): We enrolled and obtained a valid baseline blood sample from 520 women. Of these, 100 (19.2%) had concentrations of one or more contraceptive steroids above the lower limit of quantification (LLQ), and an additional 17 (3.3%) had detectable levels. The most frequently identified compounds were MPA (58, 11.2%) and LNG (50, 9.6%). LNG was co-detected in all three participants with samples containing NGMN. Multiple progestins were detected in 8 other women: ENG/MPA (1)

Obstetrics 2

Diagnosis principles of viral hepatitis B in pregnant women as a way to determine approach to the pregnancy

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Currently, hepatitis B virus infects about 3% of the world s population. It accounts for about 20% of reported cases of acute and 70% of cases of chronic hepatitis B. The peculiarity of this disease is the high frequency of chronicity, because from 50 to 85% of hepatitis B cases become chronic.

Thus, the issue of diagnosis, treatment and prevention of viral hepatitis B is particularly relevant in connection with the excess incidence among the contingent of young people and pregnant.

The object of research is a set of conditions that positively characterize modern approaches to the diagnosis of hepatitis B in pregnant women.

The subject of the research is the analysis of modern methods of diagnosis of hepatitis B in pregnant women.

The frequency of prematurity (miscarriage and premature birth) is still high. The chronic viral hepatitis B generally complicates the course of pregnancy, childbirth and the postpartum period: the frequency of preeclampsia increases, chronic fetoplacental insufficiency is more common, premature birth is more common, untimely discharge of amniotic fluid, bleeding in the early postpartum period (2).

In the period 2016-2019, only 85 pregnant women were examined for HBeAg in Ukraine, 335 for HDV and viral load, while HBsAg positive 13520 women. This disproportionate screening of pregnant women indicates a lost opportunity in preventing of mother-to-child transmission of hepatitis B virus, increasing complications during pregnancy.

A retrospective study is based on survey results of 95 pregnant women (2020-2022) with hepatitis B, attending antenatal clinic or being treated in maternity hospital. Statistical analysis has been performed by extensive parameters evaluation.

Among all women surveyed, the relationship has been established between various antigens (HBeAg+ or HDV antigen with high viral load of 20000MO\ml or more) and the state of the fetoplacental complex, liver functions, frequency of obstetric pathology. HBeAg positive women, women with HDV, with viral load 20000 MO\ml or more had increased liver transaminases (70 (93.3%), placental dysfunction (67 (89.3%), cases of delayed fetal development (48 (64%), preterm delivery (36 (46.7%).

Based on the research outcomes, it can be noted that there is a strong need to modify HBV diagnosis in pregnant women.

It is necessary to examine not only HBsAg in pregnant women, but also other immunological parameters of HBV: - HBeAg, - Viral load, - Presence of HDV antigen.

When diagnosed, it is possible to adjust the treatment approach to avoid any additional complications of HBV for the mother, as well as fetal pathologies.

It possible to suggest that antiviral therapy in the III trimester of pregnancy is an effective measure according to results of diagnostic.

Obstetrics 2

Antenatal Ovarian Torsion: case report

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A 2-month-old girl was admitted to the Gynecological Department of Children s Hospital with abdominal cyst masses on prenatal ultrasound. The rectal examination revealed a rounded mass about 5× 5 cm in size, motionless, sensitive when displaced.
Investigations and Diagnosis: Upon the discovery of the mass, the patient was referred for further evaluation. An abdominal and pelvic ultrasound confirmed the presence of a 5 cm ovarian mass located on the left ovary. This finding raised suspicion of ovarian torsion, despite the absence of typical symptoms. Subsequent magnetic resonance imaging (MRI) was performed, which revealed signs consistent with antenatal ovarian torsion.
Treatment and Outcome: Given the suspicion of ovarian torsion, the patient was taken to surgery promptly. Intraoperatively, it was confirmed that the left ovary had undergone torsion, which resulted in compromised blood flow. Detorsion of the ovary was performed, and a careful assessment showed that the ovarian tissue appeared viable. No necrotic or gangrenous areas were identified.
Conclusion: This case highlights the importance of maintaining a high index of suspicion for antenatal ovarian torsion, even in the absence of classic symptoms. Timely diagnosis and surgical intervention are crucial to preserving ovarian function and ensuring a favorable outcome for both the mother and the fetus. Further research and awareness are needed to better understand the risk factors and optimal management of this rare condition during pregnancy.

Obstetrics 2

Induction of labor Indication and outcome Review: Al Wakra Hospital Qatar

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Context The rate of induction of labor is on rise all over the world steadily for example from 9.6% in 1990 to 27.1% of all births and 37.8% of first-time births in 2018 (USA) and 21% in the year March 2010 to 34% in the year to March 2021. There is no single day in any labor ward without having to deal with induction of labor. Though it seems to be safe but it's always encouraging to review our own practice and performance and outcome.

Objective Main Objective was to know the Incidence of Induction of labor (IOL) as proportion to all births in our unit along with methods used, mode of delivery, caesarean section rate and any maternal complications specially PPH and chorioamnionitis among IOL patients.

Methods This is a retrospective review was done over 5 months period between May 2020 to June 2020.

Patient(s) All patients with singleton pregnancy and no previous caesarean delivery admitted for IOL with prostaglandin were included. Total 571 patients fulfilled the criteria out of total 2969 deliveries during that period.

Intervention(s) Data regarding indication of IOL, gestational age at IOL, method of IOL used, Time of starting IOL and time of delivery, mode of delivery, indication of caesarean section and complications were collected from electronic medical record in Excel sheet and analyzed.

Main Outcome Measures studies were.

Rate of IOL proportional to all deliveries,

Indication of IOL,

Mode of delivery after IOL and rate of caesareans section

Indication of caesareans section.

Time interval between IOL and delivery

Maternal Complications if any

Result(s) Total 571 needed IOL with prostaglandin during the study period. Total 2969 patients delivered during that period. Overall prevalence of IOL with prostaglandin was 19.23% of all deliveries. Average age of patients was 29 yr. and average BMI 31. Fifty eight percent (328/571) of patients were nulliparas and 4% (25/571) grand multipara. In all 96% of IOL were after 37 week (59% IOL were 37to 39+6 week while, 37% were > 40 week) and only 4% of inductions were preterm. Diabetes and associated condition constituted for most common indication 198/571(34.67%) followed by reduced fetal movement 99/571 (20.65%). Average IOL to delivery interval was 27hr21min SD 19:57 min (For Nullipara: 32.2 hrs. whereas For multipara -20.3 hrs.). About 53% delivered in < 24 hours and 76% in < 36 hours. Of all 63.74% had vaginal delivery, and 14% instrumental delivery. 124/571 (21.71%) delivered by caesarean section. Main indication of caesarean section was fetal distress 39.52% (49/124), followed by failure to progress in 29.84% (37/124). Overall postpartum hemorrhage (PPH)was 3.5% (20/571) among induction patients maximum in instrumental delivery group 7/83(8.43%). Chorioamnionitis was suspected clinically in 6.65% (38/571) of all patients. 13/571 (2.27%) had failed IOL and another 8/571 (1.40%) refused to continue IOL.

Conclusions. Overall induction of labor rate in our institute is lower than other developed countries. Our vaginal delivery rate is comparable to vaginal delivery rate in general population group during the study period (64.98%). Slightly higher rate of instrumental delivery, PPH and clinical chorioamnionitis was noticed in induction of labor patients, more multicenter studies specifically looking into chorioamnionitis and PPH in induction of labor group may be helpful in future.

Obstetrics 2

Overview of COVID-19 cases in pregnancy at Hospital Universitas Sumatera Utara, Indonesia, when the pandemic storm hit in the 2020-2022 period

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Universitas Sumatera Utara

Background: COVID-19 (Coronavirus 2019) is caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome-Coronavirus-2), an acute infectious disease primarily affecting the respiratory system. Data on COVID-19 exposure during pregnancy and issues associated with COVID-19 during pregnancy remain limited. This research aimed to determine the number of pregnant women infected by COVID-19, laboratory test findings of pregnant women related to COVID-19 infection, infant outcome from mother with or without COVID-19 infection and referential status for COVID-19 and non-COVID-19 pregnant women at the USU Hospital during the 2020 2022 period.
Materials and

Methods:

This research was conducted using a descriptive method with a cross-sectional study approach using a non-probability sampling technique by collecting secondary data from COVID-19 and non-COVID-19 pregnant women at the USU Hospital during the 2020-2022 period, where 112 samples were obtained.

Results:

The majority of COVID-19 pregnant women and non-COVID-19 pregnant women have been identified sequentially based on Hb (11.6%-decreased vs 79.5%-normal); Ht (11.6%-decreased vs 76.8%-increased); leukocytes (11.6%-increased vs 83%-normal); thrombocytes (8.9%-normal vs 86.6%-normal); PT (9.8%-normal vs 50.9%-normal); APTT (11.6%-normal vs 87.5%-normal); D-dimer (11.6%-long vs 56.3%-long); procalcitonin (7.1%-increased vs 87.5%-normal); NLR (8%-increased vs 82.1%-normal); CRP (12.5%-increased vs 87.5%-normal) and all of the baby outcomes were non-COVID-19 and the majority of pregnant women were not referred.
Conclusion: Based on the data in this study, the majority of pregnant women and babies at the USU Hospital during the 2020 2022 period were non-COVID-19 positive and with non-referral status. Laboratory findings of COVID-19 in pregnancy significantly reveals abnormalities.

Obstetrics 2

Pruritic Urticarial Papules and Plaques of Pregnancy : Literature Review and Case Report

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Abstract

Pruritic urticarial papules and plaques of pregnancy (PUPPP) is a common pregnancy-specific dermatosis that usually occurs in the third trimester of pregnancy. Although it is a benign self-limited condition, there are cases in which systemic corticosteroid treatment is required for remission of lesions and intense pruritus. The prognosis is good with disappearance of lesions without residual tegumentary changes and without impairment of normal fetal development. We present the case of a 36-year-old patient, 32 weeks pregnant, who developed tegumentary lesions in the form of erythematous and pruritic papules and plaques requiring systemic corticoid therapy for remission, and whose subsequent evolution until delivery was good, without affecting the fetus.

Keywords : Pruritic urticarial papules and plaques of pregnancy (PUPPP), dermatosis, skin, pregnancy, corticoid therapy

Obstetrics 2

The role of estradiol and progesterone during pregnancy in the pathogenesis of pelvic floor disorders (PFDs) and potential clinical strategies for surgical prevention

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Abstract:

Context:

The etiology of pelvic floor disorders (PFDs) is highly dependent on both the mechanical effects of labor and biochemical factors such as hormonal levels of estrogen and progesterone during pregnancy and the postpartum. The anatomical structures of the pelvic floor are under the direct effect of increased levels of estradiol and progesterone during pregnancy causing an alteration in their functional and morphological characteristics in adaptation for delivery. As a result, the associated changes in pelvic floor elasticity of important structures such as the levator ani muscle, levator hiatus, and bladder neck significantly contribute to pelvic floor dysfunction such as stress urinary incontinence (SUI) and pelvic organ prolapse (POP) (Davidson et al., 2020). Recent studies supporting these observations have assessed levels of relaxin, estradiol, and progesterone by immunoassay in both continent and incontinent pregnant women during the first and third trimester of pregnancy and during six-months postpartum finding significant differences between the two groups. Furthermore, following univariate and multivariate analysis, it was concluded that progesterone has the most significant effect on the pathogenesis of SUI during pregnancy and the postpartum (Molinet Coll et al., 2022).

Objective:

The purpose of this presentation will be to provide an overview of the most recent research findings related to the etiopathogenesis of pelvic floor disorders (PFDs) and yield insights into possible clinical preventive strategies to minimize the burden of SUI by avoiding surgery and its associated costs; thereby, improve the QoL of women in the future.

References:

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Obstetrics 3

Prenatal diagnosis of brain malformations: technical challenges for accurate genetic counselling

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Brain malformations, occurring in 2 to 3 cases per 1000 pregnancies, represent one of the most frequent causes of therapeutic termination of pregnancies. While Ultrasound (US) remains the standard gold of fetal malformations screening, Magnetic Resonance Imaging (MRI) recently became a useful complementary method for detecting brain malformations. During genetic counselling, accurate morphological diagnosis is essential to genetic diagnosis and molecular targeting, and thus better management of subsequent pregnancies by estimating the recurrence rate.

We aimed through this study to analyse the utility of post-mortem MRI for brain malformations during fetal autopsy and to assess its impact on genetic counselling.

We reviewed genetic counselling reports of couples with terminated pregnancies, including prenatal US and post-mortem pathology and morphology reports. We considered the cases with congenital brain malformations. Written informed consent was obtained from all parents.

Our study revealed ten couples with terminated pregnancies due to congenital brain malformations on prenatal US. In all cases, fetal autopsy was carried out with histo-pathological examinations. Post-mortem radiography and MRI explorations were conducted in four cases leading to an accurate medical genetic diagnosis. The average fetus age was 26 SA. While post-mortem brain MRI revealed posterior fossa cysts previously detected on US as a Blake's pouch in one case, it revealed (with scanner imaging) gigantic cerebral calcifications that were not visible on US in another case. It specified the extent of the ventriculomegaly suspected on US in a third case, and identified a corpus callosum abnormality associated with ocular malformations in a fourth case.

Due to significant genotypic and phenotypic heterogeneity in most genetic syndromic entities and genetic developmental disorders associated with brain malformations, a comprehensive analysis of clinical, imaging, histo-pathological and medical genetic data is needed to properly guide post-mortem genetic testing in terminated pregnancies. In addition, prenatal MRI seems to be more sensitive and accurate than ultrasound in diagnosing fetal brain abnormalities and should be performed when there is ultrasound fetal brain abnormalities. In absence of suspected ultrasound brain images, prenatal brain MRI may be indicated to study brain abnormalities associated to other congenital malformations visible at US.

Obstetrics 3

An increased nuchal translucency diagnosed before first trimester screening. What s happening later?

Emine Demir (TR), Sefa Kelekci (TR)

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Context:

Ultrasonography is a common component of prenatal care worldwide. An increased nuchal translucency (NT) may be an incidental fetal ultrasound finding before 11 weeks of pregnancy. Current guidelines recommend the gestational period of 11 to 13+6weeks, in which the fetal crown rump length (CRL) is between 45 and 84 mm, as the time at which NT measurement should be performed. Today s practice, the management of incidental finding of increased NT at a CRL below 45mm is not clear whether it requires confirmation at a higher CRL or not.

Objective:

The purpose of this study was to determine in which a group of increased nuchal translucency diagnosed before first trimester screening. What is happening in the next.

Methods:

Prospective observational cohort study

Patients: A total 108 patients who had known NT measurement before 11th weeks were enrolled in the study between Dec 2016 and June 2023

Interventions: An increased NT was defined in our study as a measurement above 2.2mm and 3.1mm, which is the 95th and 99th percentile for a 45-mm CRL fetus references according to Fetal Medicine Foundation (FMF) guidelines, respectively. All pregnant women whose embryos NTs measurement below 95th percentile included as control group. All patients reexamined between 11+0 and 13+6 weeks in terms of NT changes prospectively and blind to first NT measurement and compared between groups.

Main outcome Measures: Main outcome measures was NT changes individually and to compare with control group in terms of chromosomal abnormality, structural abnormality and fetal death.

Results:

In those with NT=95-98% before FTS, 6 out of 35 (17.1%) NT decreased below NT< 95%, 28(80%) fetus remained stable in same group and only one (2.9%) fetus s NT increased to above 99 percentile during traditional first trimester screening (FTS). In those with NT>99 percentile, none of fetusses NTs decreased below NT< 95%, 18 (94.5%) fetus NTs were remained stable and only one (5.5%) fetus NTs was decreased to below 99 percentile during timely first trimester screening. NT changes were similar in NT= 95-98% group and control group but not in fetuses with NT>99th percentile.

Conclusion: Our study showed that fetuses with an increased NT (95-98%) need to be re-evaluated at 11 13weeks but fetuses with an increased NT (99%) do not need to be re-evaluated at 11 13weeks and combined test can be completed.

Obstetrics 3

Two maternal deaths from postpartum disseminated herpes: Time to adjust puerperal sepsis guidelines?

Peter Greenhouse (GB)

Clifton Women s Health

Context/Objective:

Most maternal fatalities due to covert disseminated herpes are diagnosed too late before, or just after death, because clinical presentation is usually indistinguishable from bacterial puerperal sepsis. Could guideline changes improve these outcomes?

Patients:

These were the only two maternal deaths from peripartum-acquired disseminated herpes in 5.3M UK maternities from 2013-19.
One was 29y with an uncomplicated pregnancy in spontaneous labour at term.
The other was 32y with obstetric cholestasis at 32 weeks & premature labour at 34 weeks. Both had prolonged obstructed labour due to OP position.

Interventions:

Both were delivered by LSCS within 6 weeks of each other by the same surgeon. Both had healthy infants but sustained left broad ligament injuries requiring prolonged surgery. Both had standard bacterial sepsis regimes started at first sign of sepsis on days 8 & 2. Both developed anicteric hepatitis (raised ALT, normal Bilirubin) on days 14 & 6. Despite further antibiotics & surgeries both became comatose and died on days 20 & 8 respectively.

Outcome/Results:

Post-mortem showed both died from multi-organ failure & disseminated HSV1 with herpetic hepatitis and evidence of serosal herpetic infection throughout the abdomen but no sign of cervicitis, endosalpingitis, pharyngitis or meningitis. Neither had shown any sign nor covert symptom of orolabial or anogenital herpes: Both were HSV antibody negative.
Viral phylogenetic analysis showed that the HSV1 strains were “most probably” identical, but full sequencing was obtained in only one sample.

Conclusions:

Although some considered that surgical infection via direct intra-abdominal seeding was the most biologically plausible common route of infection, this could not be proven. The Coroner stated that more needs to be done to recognise awareness of (herpes) as a potential diagnosis to exclude in sepsis pathways and for early consideration of the use of Aciclovir . She wrote formally to the RCOG requesting action be taken.
Neither fatality could have been prevented by current guidelines without an a priori suspicion of herpes being raised. Thus the minimum requirement should be similar to that for neonatal sepsis:
1. Routine HSV blood PCR sampling
2. Intravenous Aciclovir to be started rapidly either:
a) after failure of first-line antibacterials
b) or at the first sign of anicteric hepatitis
c) or immediately on first presentation
Such action could save lives and would do no harm.

Obstetrics 3

A new ultrasonographic marker in prediction for twin-to-twin transfusion syndrome (TTTS) in monochorionic diamniotic twins

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Fetusworld private clinic

Context:

Monochorionic twins have a unique complication due to chorionicity such as twin to twin transfusion syndrome and twin anemia polycythemia sequence. To predict earlier these complications are the most important factor for survival of at least one of twins. Because of the imbalance of arteriovenous connection between them can cause this complication, the distance between two placental cord insertions may play a pivotal role the pathogenesis of TTTS. It may speculate that the lesser distance, the more arteriovenous connection.

Objective:

To evaluate of predictive value of the minimal distance between two placental cord insertions for TTTS as a new ultrasonographic marker

Methods:

Prospective observational cohort study

Patients: Total 64 patients were enrolled in the study between Dec 2016 and July 2023. Only two patients, the distance between two placental cord insertions could not measure in same plan.

Interventions: The minimal distance between two placental insertion sites were measured in the one plan by using color Doppler mapping. All measurement were recorded for every week. All pregnant women were followed longitudinally until their labors in terms of TTTS. The minimal distances were compared with TTTS group without TTTS group.

Main outcome Measures: The minimal distances between placental insertion of umbilical cords in TTTS group and without TTTS group.

Results:

Demographic characteristics were similar in both groups. Ten (16.1%) patients have TTTS in MCDA twins. The mean distance between placental insertions of both umbilical cords in TTTS group and control group were 4.75±0.94 mm and 7.86±1.34 mm, respectively. In case of less than 4 cm of minimal distance between two placental cord insertion has 84.2% sensitivity and %75 specificity, whereas longer than 7 cm has 48% sensitivity and 92% specificity for TTTS.

Conclusion: The distances between both placental insertions may have a predictive value for TTTS. It needs larger prospective controlled study.

Obstetrics 3

Secondary maternal CMV infection during a twin pregnancy leading to congenital infection of a single twin

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Context
CMV is the most common congenital viral infection. Most neonates with congenital CMV infection are asymptomatic, but approximately 10-15% of infected newborns experience symptomatic infection. Both asymptomatic and symptomatic newborns are at risk of developing long-term neurodevelopmental morbidity.
Methods
A 35-year-old woman at 13+6 weeks of gestation of a dichorionic diamniotic twin pregnancy presented with low fever and nonspecific symptoms of rhinitis and myalgia. The booking blood tests at 8 weeks had revealed positive CMV IgG and negative CMV IgM antibodies, indicating a past seroconversion. At the assessment of the patient's symptoms, a flu rapid test, EBV, and CMV IgM antibodies were negative. During the TORCH panel reevaluation at 28 weeks of gestation, a 4-fold increase of CMV IgG was revealed, with negative IgM antibodies. The IgG avidity test result was inconclusive and the patient was counseled about a low risk of fetal infection, but possible sequelae if fetuses are infected. During the serial growth scans following, no ultrasonographic sequelae were found apart from low centiles of estimated fetal weight and head circumference in embryo B.
Results
The patient delivered via cesarean section at 36+1 weeks of gestation two neonates. The neonate A was healthy and a urine CMV PCR came out negative. The neonate B was born small-for-gestational-age- age, hypotonic, with a head circumference at the lowest centiles, jaundice, and thrombocytopenia, while a urine CMV PCR test came out positive. The placenta B was not sent for pathology due to maternal denial. The neonate was administered intravenous valacyclovir and was transferred to a tertiary pediatric intensive care unit. On the reassessment of the infants a year later, the infected infant presented with microcephaly, delayed psychomotor development, and hearing loss and was under special support.
Conclusion
Although maternal antibodies to CMV formed as a result of primary infection provide some protection, they do not prevent reactivation or reinfection with a different strain. The overall risk of fetal infection among seropositive pregnant patients is low: 0.15- 2%. However, because the population of seropositive pregnant patients is large, most congenitally infected neonates are born to seropositive mothers. High clinical suspicion of CMV congenital infection is crucial at all pregnancies with possible reinfection during the gestation for antenatal follow-up and management.

Obstetrics 3

Postpartum hemorrhage management, according to the underlying cause

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Postpartum hemorrhage (PPH) is still a significant cause of death worldwide. This condition is classically defined as a blood loss of 500 ml or more within 24 hours after birth. Their most common causes are uterine atony, placental retention, coagulation disorders or genital trauma, and the management depends on each cause. PPH remains the leading cause of maternal mortality in low-income countries and stands out as the primary cause of nearly one quarter of all maternal deaths globally. Most deaths resulting from postpartum hemorrhage take place during the first 24 hours after birth, and the majority of these could be prevented through prophylactic drugs known as uterotonics during the third stage of labor and by timely and appropriate management. Postpartum hemorrhage can occur in patients without priorly known risk factors for bleeding. The proper management of postpartum hemorrhage implies rapid diagnosis and treatment. The four Ts mnemonic can be used to diagnose and cure the four most common causes of postpartum hemorrhage: uterine atony (Tone); laceration, hematoma, inversion, rupture (Trauma); retained tissue or invasive placenta (Tissue); and coagulopathy (Thrombin). Fast-diagnosing team-based care significantly reduces the morbidity and mortality associated with postpartum hemorrhage, no matter the cause. Being a specialist doctor in ob-gyn can be challenging while facing these cases, but we need to stick to the protocol in order to provide a scheme for the strategic policy and steps needed to ensure effective interventions in all PPH cases.

Obstetrics 3

Cornual pregnancy complicated with uterine rupture: a case report

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CONTEXT
Ectopic pregnancy consists in the implantation of the blastocyst outside the uterine cavity. Interstitial or cornual pregnancy occurs at the junction of the uterine tube with the uterine horn (1 to 2% of all tubal ectopic pregnancies). Its implantation site is characterized by great myometrial distensibility, which allows a certain progression of pregnancy and intense vascularization in view of its proximity to the uterine arteries. Such condition is serious due to the high rate of complications, including an important cause of death.
OBJECTIVE
To report a case of ruptured cornual ectopic pregnancy.
METHODS
Reports produced through a retrospective analysis of medical records.
PATIENT
KCP, 32 years old, G4P2A1, gestational age of 18 weeks, was admitted reporting nausea, vomiting, abdominal pain in the lower abdomen, pain in the right flank, date of the latest menstrual period uncertain due to menstrual irregularity and recent abortion followed by uterine curettage. On physical examination, positive Giordano's sign on the right and abdomen was flaccid, but palpation was diffusely painful.
INTERVENTIONS
Due to anemia, blood transfusion was indicated, and empirical antibiotic therapy was started. On day 2 of hospitalization, she presented an increase in abdominal pain associated with hemodynamic instability. A new echography showed ectopic pregnancy with a fetus (18 weeks biometry) without vitality. The placenta was protruded in the abdominal cavity, with a large amount of free fluid.
MAIN OUTCOME
The patient underwent exploratory laparotomy through a median infraumbilical longitudinal incision, identifying massive hemoperitoneum, uterine rupture, with placenta adhered to the right horn and fetus located in the left hypochondrium. Bleeding was contained, trophoblastic tissue was excised and hysterorrhaphy was performed in two planes. Intraoperatively, volume replacement with crystalloid and new blood transfusion was necessary. The patient was referred to the intensive care unit in the immediate postoperative period.
RESULT
The patient evolved satisfactorily and was discharged on the 4th day after surgery.
CONCLUSION
This work highlights the importance as an obstetric emergency of the early diagnosis of a ruptured ectopic pregnancy through diagnostic suspicion, and the association of physical examination, elevated human chorionic gonadotropin levels and ultrasound study are determinants in the reduction of maternal morbidity and mortality.

Obstetrics 3

The role of a gluten free diet and antibiotic treatment on the prevention of fetal growth restriction, preterm birth, to increase the placental blood flow.

Daniela Pelotti (IT), Gianna Frattini (IT)

Context In industrialized countries, about four-fifths of low birth-weight infants are born preterm and a fifth of these pre-term births are due to intrauterine growth restriction(IUGR).. The etiology of IUGR remains undetermined, but several risk factors for the conditions have been identified. Intrauterine growth restriction (IUGR) is defined as fetal growth less than the normal growth potential of a specific infant because of genetic or environmental factors. Various maternal, placental, neonatal, environmental and genetic factors are contributing to the preponderance of IUGR infants. Objective In this review we would like to present the possible etiology related to maternal, fetal and placental causes; short term and long term neurodevelopmental outcomes, and evidence based preventive interventions effective in reducing the IUGR burden. The main aim of this study is to analyze that treatment with combined gluten free, low carb diet and antibiotic therapy increases the placental blood flow and particularly improves abnormal uterine artery doppler velocimetry in high risk pregnancy. Such pathological changes are considered to be responsible for very high utero-placental resistance, leading to blood flow insufficiency in pre-eclampsia or intrauterine growth retardation. It is possible that Gluten free diet and antibiotic administration could have a role on anticoagulant, vasomotor and inflammatory effects of the endothelium altered by the bacterial inflammation caused by celiac disease. Method - we examined one hundred and seventy pregnant patients afferent to our private practice starting from the 28th week of amenorrhea with umbilical artery flow Doppler alterations with PI values> 2 SD by gestational period, with fetuses affected by IUGR and without obvious maternal pathology. We subjected patients to antibiotic therapy with diaminocillin 1 gram tablets every 12 hours for 6-12 days and with low carb and gluten-free diet. We monitored patients: control of clinical and blood chemistry parameters, weekly ultrasound assessment of fetal growth and umbilical artery Doppler flowmetry. Results - The diet and the antibiotic therapy have determined a rapids resolution of the parameters already altered of the velocimetria Doppler and improve of fetal growth in all the patients in the following week to the therapy. Conclusion - the data above reported they propose the objective of a therapy of the IUGR in pregnancy to the goals of the prolongation of the pregnancy, necessary to reduce the connected risks to the fetal prematurity and the prospect of an outpatient IUGR management.

Obstetrics 3

Post-Gestational Diabetes Status - follow-up data from a primary healthcare center in Lisbon

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Context

A previous diagnosis of Gestational Diabetes (GD) comes with 60% life-risk of progression to insulin-resistant Diabetes Mellitus (DM). Most of the international guidelines suggest that serum fasting glucose levels should be performed in this population every 1-2 years to early diagnose a diabetes onset in these women. As family and preventive medicine doctors, it is a valuable public health measure to alert our patients and promote healthier lifestyles. Identifying women at higher risk allows disease-prevention measures and earlier diagnoses with enhanced outcomes.

Objective

Measure the rate of well followed post-GD patients in a primary healthcare center.

Methods

Data collected, selected and studied from the MIM@UF platform regarding the W85 code (Gestational Diabetes) from ICPC-2 in doctors' appointments between January 2009 and March 2022. Data regarding the results of oral glucose tolerance tests and posterior bloodwork (through S. Clínico platform) until May of 2022 were also collected.

Patients

1265 pregnant women, 68 women met the study criteria, performing a total of 72 pregnancies.
Main Outcome Measures
Criteria for adequate follow-up were having a puerperal oral glucose tolerance test and a fasting serum glicose measure every 2 years after the on-set of the diagnose.

Results

From a total of 1265 pregnant women, 5.45% were diagnosed with GD (vs the 8.8% of the Portuguese prevalence estimate in 2018). 68 women were selected for the study, performing a total of 72 pregnancies. 34 of these had no follow-up notes. Only 14 women continued to have an appropriate follow-up in this setting.

Conclusions

As the postpartum consult was frequently undervalued by the new-mothers (even with a previous GD diagnosis) seems that the physicians themselves are not enough aware of the higher risk for Diabetes Mellitus onset. Populational strategies should be undertaken in order to sensibilize women, doctor and nurses to the importance of keeping an eye in serum glucose levels in these patients, so that life-style and therapeutic measures can be taken on time to minimize bad outcomes and retard as much as possible a DM-establishment.

Obstetrics 3

Oligohydramnios : A review of etiology and management options

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Oligohydramnios is both a consequence of fetal malformations and of uteroplacental insufficiency. Its existence is associated with a high rate of both antepartum and intrapartum complications. It is vital that its occurrence is detected as early as possible so that we can manage it correctly. The main causes of its occurrence are identified and described in this review. A PubMed systematic search was performed using keywords like oligohydramnios , Potter syndrome , pulmonary hypoplasia , polycystic kidney disease , multicystic renal dysplasia , posterior urethral valve , urethral atresia , amnioinfusion . Following the systematic search we found aproximately 764 articles ,which included randomized controlled trials , review articles , systematic reviews and meta-analyses . In our review we chose to include 30 articles that we found to be most relevant to the subject .The management of oligohydramnios is most often expectant, the timing of delivery also being determined by Doppler examination and changes in parameters measuring fetal growth and development.

Key words : Oligohydramnios , Potter syndrome , pulmonary hypoplasia , polycystic kidney , multicystic renal dysplasia , posterior urethral valve , urethral atresia , amnioinfusion .

Pre-recorded presentations

Covid placentitis- a retrospective study of placental histopathological changes

Raksha Beethue (IE)

INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic has had devastating effects on mortality and morbidity, including in pregnant women. Epidemiological studies have reported an association between COVID-19 and stillbirth. Studies have suggested impairment of placental function from SARS-CoV-2 infection as a plausible mechanism of stillbirth.

AIM

This study aimed to report the spectrum of placental pathology findings in pregnancies complicated by SARS-CoV-2 infection in Letterkenny university hospital over the period of one year.

RESULTS

4% of the patient with covid placentitis had normal histology while 6% had significant placental macroscopic/microscopic changes. There was many histopathological changes amongst which the most important change noted was increased fibrin deposit or massive perivillous fibrin deposition (MPFD) which has emerged in different studies as being present in almost all SARS-CoV-2 placentitis. It was recorded at 35.3%. Intervillous dystrophic calcification was noted to be present at 65%.

CONCLUSION

Most of the findings mirrored the findings available in the current litterature. It is of paramount importance to understand how the placenta is affected by covid to be able to further predict pregnancy outcomes.

Pre-recorded presentations

Late vaginal cuff dehisence and evisceration after prolapse surgery: case report

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Algiers' university

Introduction:

Vaginal cuff dehiscence (VCD) is rare and may be associated with evisceration of the small bowel. It s a rare life threatening condition that is usually seen in postmenopausal women with past history of gynecological surgery.
Presentation of case: A 55-year-old woman presented with sudden-onset abdominal pain and protrusion of a mass through the vagina without triggering factor after two years of a reconstructive prolapse surgery.
Physical examination revealed small bowel in the vagina.
Laparotomy was performed and the vagina closed. post-op wall sepsis has been controlled. Discussion: Less than 100 cases of VCD have been reported. Most often this event this event occurs acutely; sometimes a triggering factor is found, the most important risk factor being a history of total hysterectomy. Diagnosis is easy Immediate surgery is necessary to reduce the risk of intestinal ischemia and necrosis.

Conclusion:

VCD must be suspected in any woman with surgical history of total hysterectomy presenting with sudden-onset abdominal/ pelvic pain or swelling.
Emergency surgery is necessary to avoid complications which can be serious
Keywords: vaginal cuff dehiscence, evisceration

Pre-recorded presentations

The prognostic markers of malignancy in ovarian tumors in the cases of HPV carriers

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A number of mechanisms that increase the aggressiveness of tumor growth enhance the cancerogenic strategy of human papillomavirus (HPV). The development of epithelial neoplasia of the ovaries has a pronounced dependence on the pathological vascular network caused by the system of growth factors. Some of the most effective angiogenesis factors are the vascular endothelial growth factor VEGF and the transforming growth factor TGF-²1

The objective is the prognosis of the development of malignant ovarian neoplasia based on studying the expression levels of specific oncoproteins p16, E6, E7, vascular VEGF, transforming growth factors TGF-²1 and tumor necrosis factor TNF-± in ovarian tissue in patients with HPV.

Methods & Patients:

the histological material obtained after cystectomy (panhystrectomy) for neoplastic ovarian formations, from 120 women of reproductive and early postmenopausal age had studied. We studied the level of expression of oncoproteins p16, E6, E7, vascular VEGF, transforming growth factors TGF-²1 and tumor necrosis factor TNF-± in ovarian tissue in patients with HPV (70 patients) and with negative results for HPV (50 patients).

Main Outcome Measures.

In only 13.6% of cases with confirmed HPV infection, HPV-associated proteins E6 (15.7%), and E7 (11.4%) were detected in tumor tissue, which indicates an insignificant role of human papillomavirus infection in the pathogenesis of epithelial ovarian cancer. The presence of the p16 oncoprotein in 65.7% of patients with HPV-positive status, as well as the expression of growth factors VEGF (70.0%) and TGF-²1 (64.3%) in conditions of reduced TNF-± level, is a sign of an unfavorable clinical course of the disease.

Results

Patients with HPV with borderline neoplasms with high levels of p16, VEGF, and TGF-²1 constitute a risk group for the malignancy of cystadenomas and require dynamic monitoring.

Conclusions

Determination of vascular VEGF, transforming growth factors TGF-²1, tumor necrosis factor TNF-±, and p16 can be used as prognostic markers of malignancy in ovarian tumors. Although specific oncoproteins characteristic for HPV were detected in only 13.6% of patients in our study, the combination of these factors is an almost absolute indicator of the malignant potential of neoplasia.

Pre-recorded presentations

Accessory cavitated uterine mass (ACUM) in a multiparous patient: case report and literature update

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University of Medicine and Pharmacy Cluj-Napoca

It is rare to find a large anechoic image within the myometrium. We discuss the case of a 35-year-old patient who complained of persistent postmenstrual pelvic pain refractory to medical treatment. In addition, a comprehensive review of literature on accessory cavitated uterine mass (ACUM) is provided.

The patient s medical history includes two vaginal deliveries and a dilation and curettage for retained placenta after the second birth. During a pelvic 2D and 3D transvaginal ultrasound examination, a single, well-defined anechoic image was discovered on the left side of the uterus. It was oblong in shape, measuring 64x45x25 mm, with a volume of 21 cm^3. A sedimentation level was identified at the inferior pole of the image. A 6 mm thick myometrial rim separated the lesion's inner border from a normal uterine cavity. The Doppler examination revealed a typical myometrial blood flow around the lesion. The MRI showed a cystic mass containing blood products within the left border of the uterus, adjacent to a normal-shaped uterine cavity, and normal ovaries. The suspicion of an ACUM was raised.

For two years, the patient continued to complain of increasing pain, which worsened during menstruation and was refractory to medical treatment. Because of the mediocre quality of life, the patient requested a subtotal hysterectomy, which was eventually performed by laparoscopy. Pathological examination revealed a cystic mass located under the insertion of the left round ligament of the uterus, containing thick brown fluid consistent with old blood, lined by endometrium, and surrounded by myometrium. All established criteria for ACUM were met. Interestingly, this anomaly was discovered in a 35-year-old patient with two vaginal deliveries in her history, opposite to what is asserted in literature that the ACUM appears in younger patients, even in adolescents.

We provide 2D and 3D ultrasound scans, MRI images, and pathological photographs, along with laparoscopic video and still images. ACUM is considered a new Müllerian anomaly that is underdiagnosed because of a lack of awareness regarding its existence. In literature, only forty cases were reported. Because there are no guidelines, interpreting and managing such atypical ultrasound findings is challenging. This is especially difficult when the patient is young, and the fertility-sparing surgery is mandatory. Surgical excision by laparoscopy or laparotomy is the only known efficient treatment for this condition.

Pre-recorded presentations

Prevalence of endometriosis in the Toldt's fascia of patients undergoing en bloc peritonectomy excision for endometriosis due to pain or infertility

Igor Chiminacio (BR), Carolina Obrzut (BR)

WHR - Woman's Health Research Endometriosis

Context:

Toldt's fascia in the left iliac fossa is an embryonic landmark and a common site of endometriosis often overlooked in surgical excisions.

Objective:

To show the prevalence of endometriosis found in the anatomical area called Toldt's fascia, an embryonic fold in the meso-sigmoid commonly called just a physiological adhesion and not resected in most of the usual surgical techniques for endometriosis.

Methods:

A descriptive cross-sectional study of a series of 197 cases of women with infertility or pain diagnosed with endometriosis who underwent excision surgery using the systematized technique of en bloc peritonectomy in which access was made to the retroperitoneum via Toldt's fascia in the left iliac fossa with standardized excision of this area and not just its separation.

Patients: We studied 197 cases of patients diagnosed with endometriosis due to pain or infertility who underwent en bloc excision surgery with non-oncologic peritonectomy to eradicate the disease. All the patients who underwent surgery had their diagnosis of endometriosis confirmed by anatomopathological examination at some location in the pelvis. The patients studied were operated on between January 2022 and July 2023 at a reference center for endometriosis in southern Brazil.

Interventions: All 197 patients underwent excision surgery with the systematic removal of the mesorectum and meso-sigmoid area described by the Austrian anatomist Carl Toldts, an important embryological fold in the embryonic formation of the left iliac fossa, commonly referred to simplistically by gynecologists as a physiological adhesion.

Main outcome measure(s):

Endometriosis documented by pathology was found in 142 (72.08%) of the 197 cases studied.

Results:

The prevalence of endometriosis in Toldt's fascia in this study was 72.08%.

Conclusion: The anatomical site called Toldt's fascia shows a high prevalence of endometriosis, often hidden by folds of embryonic origin, probably originating in the path track of the Mullerian ducts. For this reason, the authors suggest and encourage the systematic exploration of this area in curative excision surgeries for endometriosis.

Pre-recorded presentations

an early Parkinson disease with pregnancy

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Background:

Parkinsonism typically manifests in individuals in their early 60s, making the concurrent occurrence of pregnancy and Parkinsonism rare. Early-onset, before the age of 40, constitutes only 5% of cases, further highlighting the rarity of this coexistence and the challenges it poses in management (Seier and Hiller, 2017). This report discusses the management of a young pregnant woman with autosomal recessive Parkinson's disease, emphasizing the approach employed and reviewing the scarce literature on this subject.

Case History:

A 33-year-old primigravida had booking at 15/40 following a planned IVF pregnancy. She had been diagnosed with Parkinson's disease at the age of 22 due to gene deletion. She had been on Sinemet (Carbidopa/Levodopa) pre-pregnancy, although the dose had to be increased to 75 mg BD to control her symptoms. An MDT approach had been conducted throughout her pregnancy, including mental health care for her anxiety as well as neurologist, physiotherapist, and anesthetic review. Interestingly, her symptoms remained unchanged during pregnancy, however at 39/40, her symptoms worsened, and she was prescribed lorazepam and propranolol to control her tremors and anxiety. She had an uneventful elective Caesarean section at 39-weeks under Spinal Anesthesia with a healthy baby. Her motor symptoms improved after delivery. She was discharged 5th day postpartum in good condition, with postpartum follow-up scheduled with Neurology and Occupational Therapy.

Discussion and Literature Review:

Only a few cases of Parkinson disease with pregnancy have been documented, therefore limited evidence exists for standardized management plans or potential complications. MDT approach is crucial, even in the pre-pregnancy phase, to formulate long and short-term management strategies (Seier and Hiller, 2017). Additionally, Results from other studies suggested relative safety of Carbidopa and Levodopa (Zeynep et al., 2018).

Conclusion and Recommendations:

While the coexistence of Parkinson's disease and pregnancy is rare and may carry maternal and fetal risks, effective management through MDT approach provide a favorable pregnancy outcome. medications should not be stopped or changed if they achieved good symptoms control. Nevertheless, further research is needed.

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Pre-recorded presentations

Vaginal microbiome in patients with early miscarriages in Eastern European population

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Context
The rate of early miscarriages in the general population is about 15% among clinically recognized pregnancies. Meanwhile, the role of the genital tract microbiome in the pathogenesis of miscarriages is poorly understood.

Objective
To determine the composition of the microbiome of the lower genital tract of women with an ongoing pregnancy and with miscarriages.

Methods
The microbiome was examined using 16S rRNA sequencing on the Ion Torrent PGM. We used the Shannon index to evaluate the alpha diversity and the Bray-Curtis dissimilarity for beta diversity. Differential abundance analysis was performed using the Multiple Wilcoxon test.

Patients
In a study, pregnant women were recruited at the 8 11 weeks of gestation at Yakovlevo Central District Hospital (Belgorod region, Russia). Patients were divided into two groups: women with ongoing pregnancy (n=40), and women with miscarriages (n=11). Only patients with ongoing pregnancy, delivered at term, were included in the study.

Interventions
To study the vaginal microbiome, the material was collected using a vaginal swab, mixed and contained in the Eppendorf tubes. The biomaterial was stored at a temperature of -80 !.

Main Outcome Measures
The most diverse vaginal microbiome was characteristic of the miscarriage group. Beta diversity did not differ significantly between groups. L. iners predominance was characteristic of both study groups.

Results
Significant differences were found for seven bacteria. Of these, Bifidobacterium dentium, Bifidobacterium longum, and Ileibacterium valens dominated the ongoing pregnancy group, while Bacteroides plebeius, Bifidobacterium breve, Gardnerella vaginalis, and Mycoplasma girerdii dominated the miscarriage group.

Conclusions
The data we obtained demonstrate that L. iners is a predominant microorganism in Eastern European women's vaginal microbiome during the first trimester. The data obtained showed the important role of Gardnerella vaginalis and M. girerdii in the pathogenesis of early miscarriages and necessity of the screening for these infections during preconception care. Bifidobacterium longum has a protective effect during early pregnancy. The study contributes to understanding the vaginal microbiome composition of the Eastern European population in early pregnancy, as well as the role of the genital tract microbiome in the pathogenesis of early miscarriages.
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Pre-recorded presentations

Cervical HSIL patients with satisfied colposcopic images: similar clinical efficacy and pregnancy outcome of Carbon Dioxide laser ablation versus LEEP

Qing Li (CN)

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In this study, individuals with cervical HSIL of TZ1-2 are treated with laser ablation or LEEP, and pregnancy outcomes are compared. Both were discovered to have comparable results and pregnancies.

Introduction

Loop Eelectrosurgical Excision Procedure(LEEP) is suggested for patients with cervical high-grade squamous intraepithelial lesion (HSIL) , while ablation may also be taken into account for patients with transformation zone (TZ) 1-2. Studies comparing and analyzing the impact and pregnant outcomes of resection versus ablation following HSIL, however, are scarce.

Materials and Methods

Patients with cervical HSIL of reproductive age who underwent satisfied colposcope,subsequently treated with laser or LEEP between Jan 2019 and Dec 2021 were collected. To evaluate the effectiveness of the two surgeries, postoperative cytology, HPV result, and colposcopic pathology were compared. We monitored the surgical pregnancy rate, pregnancy complacations, and pregnancy results.

Results

A total of 566 cases, comprising 233 laser cases and 333 LEEP cases, were included. There was no significant difference between the two groups in terms of preoperative cytology, HPV distribution, or the length of the cervical canal.After six months of surgery, 91.5% of patients who underwent laser therapy and 86.9% of those who underwent LEEP had normal cytology. The histology cure rate was 91.5% and the HPV conversion rate was 74.6% in both groups. The distribution of cytology, HPV, and colposcopic pathology between the two groups did not differ significantly from one another. The length of postoperative cervical canal was significantly longer in laser group (29.05 mm) than LEEP group (27.05 mm),$P < 0.001$.

Conclusion

Laser ablation and LEEP produce comparable effects pregnancy outcomesin cervical HSIL patients with TZ types 1 and 2, but LEEP has pathologic feedback and lessens invasive cancer leaking.

Pre-recorded presentations

Association of FTO gene variant rs9939609 polymorphism with body mass index in Indonesia women with polycystic ovarian syndrome

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Context
The polycystic ovary syndrome (PCOS) is a syndrome characterized by endocrine and metabolic disorders. The etiology of polycystic ovary syndrome (PCOS) is unknown. Some due to genetic and hormonal factors affecting the pathogenesis of PCOS. Obesity is associated with the risk of developing the clinical and endocrine features of PCOS. Fat mass and obesity-associated (FTO) gene was reported to be associated with obesity genetics and association of variant FTO rs9939609 with PCOS has been unclear.

Objective
This study aims to evaluate the association of FTO polymorphism rs9939609 and body mass index in Indonesian women with PCOS.

Methods
A retrospective analytic study was performed in women with PCOS from December 2022 to July 2023 in HFC IVF Center, Department of Obstetrics and Gynecology, Faculty of Medicine, Universitas Sumatera Utara.

Patient(s)
The study was conducted on 83 Indonesian PCOS women in the reproductive age range of 20 40 years. We divided the PCOS women in two groups (group I : BMI<25 kg/m2 and group II: BMI>25 kg/m2). They were diagnosed as PCOS according to the consensus of Rotterdam criteria satisfying at least two of the three criteria.

Intervention(s)
FTO genotyping was done on 83 PCOS patients by Sanger sequencing.

Main Outcome Measure(s)
The characteristics of body mass index, FSH level, LH level, and LH/FSH ratio, Fasting glucose, Fasting insulin and FTO gene polymorphism were assessed in PCOS women.

Result(s)
From this study, we found that the average of Body Mass Index (BMI) was 26.75±4.31, FSH level was 4.62±1.32, LH level was 7.79±6.14, LH/FSH ratio was 1.73±1.26, Fasting glucose was 102.78±51.21 and Fasting insulin was 16.04±11.67. We also found the distribution FTO gene polymorphism in PCOS women with 50.60% TT, 37.35% TA and 12.05% AA then 69.28% T allele and 30.72% A allele. There were no significant difference between body mass index and FTO gene polymorphism in PCOS women ($p>0.05$) but there were significant difference between fasting glucose and FTO gene polymorphism in PCOS ($p<0.05$). We also found that the proportion of heterozygote variant TA and A allele in polymorphism of FTO gene variant was higher in body mass index > 25 kg/m2 than BMI <25 kg/m2 in PCOS women but there was no significant difference between them ($p>0.05$) .

Conclusions :
There were no significant asscociation between high body mass index (overweight and obesity) and FTO gene rs9939609 polymorphism in Indonesian women with PCOS.

Pre-recorded presentations

Huge ovarian tumor which was serous borderline tumor a random finding in women with another complaints : a clinical case report.

Khava Mashtagova (RU)

Patient K., 31 years old, on 09/10/2022 presented with pain during intercourse and infertility for 10 years, very heavy menstruation, lower back pain.
The anamnesis: in 2018, hysteroscopy was performed with diagnostic blind curettage because of abnormal uterine bleeding. After the surgery, the patient noted an increase in menstrual bleeding (she had to use double protection and change it every hour). During bimanual examination a large formation was revealed occupying the entire iliac region. According to MRI with intravenous contrast of September 12, 2022: the right ovary is represented by a large oval-shaped cystic formation with clear even contours, heterogeneous structure, with parietal fluid inclusions along inner contour, 8.5x10.5x10.7cm in size, with unexpressed accumulation paramagnetic, along inner contour of the posterior sections with parietal growths. An increase in the level of both CA-125 to 155.1 U/ml and HE4 to 78.65 mmol/l tumor markers had been noted in blood test.
On October 20, 2022, a surgical intervention was performed in scope of hysteroscopy, diagnostic curettage, laparoscopy with taking a biopsy from right ovarian tumor. The emergency intraoperative cytobiopsy revealed serous borderline tumor with areas of micropapillary structure. Based on these results, resection of right ovary, big omentum, and multifocal biopsy of peritoneum were performed. Pathological study revealed serous borderline right ovarian cancer with areas of micropapillary structure. Tumor was without extension beyond ovarian capsule and without lymphovascular invasion. No tumor growth was found in the omentum, in biopsies of the peritoneum, in the scraping of cervical canal and uterine cavity.
TV ultrasound dated 11/23/2022: condition after resection of the right ovary, no data for tumor recurrence detected.

Conclusions:

The earliest possible appearance of patients with mentioned above complaints to a gynecologist increases chances of timely detection and diagnosis of ovarian malignancies. In addition, intraoperative emergency cytodiagnosis of neoplasms of uterine appendages allows to perform minimally invasive surgical interventions, which contribute to maximum preservation of ovarian reserve in patients of reproductive age.

Pre-recorded presentations

Incidental diagnosis of accessory cavitated uterine mass (acum) in pregnancy:a case report

Hira Mumtaz (GB)

Basildon University Hospital, Mid and South Essex NHS Trust

Introduction

Accessory cavitated uterine mass (ACUM) is a rare Mullerian duct anomaly which affects young women .It is characterised by presence of a non-communicating accessory uterine mass located in the myometrium or within the broad ligament, close to the round ligament insertion, with an otherwise normal genital and urinary tract . It is a relatively unknown condition, which makes its diagnosis complicated and suggests a large differential diagnosis. We report here a case of a 24-year-old female presented with chronic pelvic pain,dysmenorrhea and positive urine pregnancy test.

Methods

A 24-year-old nulliparous lady presented with left sided chronic pelvic pain and dysmenorrhea for last 5 years. She was initially treated with oral continuous progestogens for suspected endometriosis. The transvaginal scan reported two uterine cavities with single cervix. Larger uterine cavity reported as subseptate, smaller uterine cavity located closer to bladder wall with increased vascularity, both ovaries looked normal. So, an urgent referral was made for gynaecological assessment.On further work up she was found pregnant. Initial EPAU scan suspected ectopic pregnancy. Plan was made to do serial BHCG checks as she was asymptomatic. Follow up scan revealed an intrauterine viable pregnancy at 6 weeks of gestation with an accessory cavitated uterine mass. She was managed conservatively in view of viable intrauterine pregnancy with coexisting ACUM.Further management of ACUM was advised after delivery.

Results:

ACUM is a small, surgically correctable cause of severe dysmenorrhea. The lateralisation of the menstrual pain should prompt the search for this malformation with imaging techniques(US,MRI).Treatment options include conservative management, hormonal suppression, destruction of the endometrial lining by alcohol sclerotherapy and complete surgical excision which is curative.

Conclusion :

Knowledge of ACUM and awareness of its imaging features can help diagnose this often underdiagnosed and surgically correctable cause of dysmenorrhea. Early diagnosis and treatment significantly enhances patient’s quality of life.

Pre-recorded presentations

Postnatal maternal re-admission in a district general hospital in the UK

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Mid and South Essex NHS Trust

Introduction:

Maternal re-admission after childbirth is considered as an indicator of the maternal morbidity. This significantly affects the mother-infant bonding and adds to cost of maternity care. According to the report from The National Maternity and Perinatal Audit (NMPA), the rate of maternal postnatal re-admission is 3.3% across England & Wales, with more women re-admitted after Caesarean section (4.3%) than vaginal birth (2.9%).

AIMS OF THE AUDIT

To identify the reason for re-admission within 42 days of giving birth; Hypertension, wound infection, endometritis, etc.
To review if the women, who were re-admitted for Hypertension management, had a plan for postnatal follow up of BP at discharge following birth and also to check the number of women who were reviewed by consultant on re-admission within 14 hours.

METHODS

The data of all women who were re-admitted within 42 days after childbirth between January and December 2022 were studied. Women admitted for neonatal reasons were excluded. Results analysed and compared with previous audit.

RESULTS AND DISCUSSION

The number of women needing re-admission was 76. The rate of re-admission is 2% (3.3% overall rate in England). The number of women admitted with raised BP was 19 (25%). 87% of them had plans made for follow up of BP at discharge following birth.
The number of women re-admitted with infections, morbidity is 45/76 (59%). 15 were diagnosed with Endometritis/ intra-abdominal collection. 3 had UTI, 5 had mastitis. 4 women had infection of episiotomy, one of them had re-suturing as she had vaginal haematoma. 18 women had Caesarean wound infection, 2 of them had re-suturing.
Other causes for re-admission were anaemia- 4, all had blood transfusion, Post dural puncture headache- 2- both had blood patch, Post operative abdominal pain -2, Paralytic ileus-1 and one woman had Pulmonary Embolus.
38% of women were reviewed by consultant within 14 hours. 21 % were not seen by consultant during their stay at hospital.

CONCLUSION:

Our audit showed a re-admission rate of 2%. Only 38% were seen within the set target of 14 hours. This can be improved by mentioning these women at the morning and evening handover. We also noted incomplete documentation, hence we emphasised on clear documentation of when and who reviewed the women. To reduce our wound infection rates, we plan to do a study on wound infections to identify risk factors and reduce the rate of infection.

Pre-recorded presentations

Neonatal health outcome of offspring born after Preimplantation Genetic Testing for aneuploidies (PGT-A) in IVF

Evangelia Timotheou (GR), Tatiana Chartomatsidou (GR), Kyparissia Kostoglou (GR), Ourania Kakani (GR), Maria Galiotou (GR), Foteini Chouliara (GR), Robert Najdecki (GR), Evangelos Papanikolaou (GR), Dimitra Christopikou (GR)

Assisting Nature

Context:

The subsequent spread of PGT-A technology in infertility centers worldwide generated an intense scientific debate about its safety. During a blastocyst biopsy, five to six cells of the trophectoderm are removed and analyzed. However, given that this is an invasive procedure, this method may affect the growth and development of the embryo. In previous studies, no difference between major congenital abnormalities or adverse obstetrical outcome was reported, when compared to children born after ICSI cycles (2-6%). This study is aimed at determining whether PGT-A increases the risk of adverse neonatal clinical outcomes as well as future development.

Objective:

The aim of this study is to examine the safety of PGT-A on the health of the infants and their overall neuromotor development.

Methods:

This is a prospective observational study. The study examined whether PGT-A trophectoderm biopsy has any impact on the health of newborns and infants up to 3 years of age, compared to that of children born after ICSI.

Patients: Between 01/01/2017-01/01/2020, 115 women underwent IVF cycles with PGT-A, with 57 of them having euploid embryos suitable for transfer. Thirty-six (36) of them gave live birth (63% live birth rate). The women s age ranged from 35 to 50 years, (mean age 42 years).

Intervention: Obstetric, neonatal and infants data were collected prospectively. Mothers of the children completed an extra questionnaire asking child-specific questions regarding health and well-being, mental health and neurodevelopmental stage for every year until the 3rd year of children s age.

Main outcomes: In total, 44 children were born after PGT-A. Twenty-eight (28) were singletons and sixteen (16) resulted from twins. Eight children, all from twin pregnancies, were born premature (<36 weeks). 9% required neonatal intensive care admission (4/44), because of prematurity, hypoglycemia or tachypnoea. Only one singleton had a very low birth weight. Three out of 44 children (6.8%) born after PGT-A had major congenital anomalies, such as: one twin had both congenital heart disease (atrial septal defect) and pyloric stenosis; one twin had ureteropelvic junction obstruction; one singleton had hydronephrosis. All three of them underwent surgical correction and recovered well after surgery. In the first year of development one set of twins presented hypotonia and the second sibling mild hypertonia, due to prematurity. In the second year of development one was reported with sobbing spasm. No health or developmental problems reported from infants who reached the 3rd year of age. Additionally, these children have similar health, well-being and development as their peers, according to pediatric evaluation.

Results:

Eventually, the incidence of major congenital anomalies after PGT-A is similar to that reported after ICSI. Moreover, no developmental problems were reported in any of the offspring until the age of 3.

Conclusions:

Overall, the data suggest that trophectoderm PGT-A does not cause adverse outcomes in offspring. No evidence for a potential increased risk was found after PGT-A. Children seem to be on the same developmental level as their peers. Furthermore, it should be very interesting to follow these children further, ideally until they reach adulthood. The main limitation of the study is the small sample size that must be taken into consideration when interpreting the data.

Pre-recorded presentations

A case of early onset intrahepatic cholestasis of pregnancy with rapid bile acid elevation

Sara Ismail (GB), Usha Nair (GB), Olatunji OGGUNNUBI (GB), Okonkwo Rasmus Izuchukwu (GB)

Obstetric cholestasis (OC) is a pregnancy-specific liver disorder characterised by pruritis and elevated serum bile acid levels. Early onset of OC, is defined as its presentation before the 24th gestational week, is relatively rare but poses significant clinical challenges. Whilst obstetric cholestasis usually has no significant maternal adverse outcomes, aside from decreased quality of life from pruritus, it can lead to significant foetal complications, including stillbirth. We report a case of early onset OC with rapidly increasing bile acid levels, highlighting the clinical course, diagnostic workup, and management strategies. Our report describes a case where a 27-year-old primigravida presented with pruritus with bile acid level of 15 ¼mol/L at 22 weeks gestation. On repeat testing the level had decreased to 5 ¼mol/L with normal ALT and remained stable for almost 7 weeks, when suddenly at 29+5 weeks on repeat testing bile acids rose to 273 ¼mol/L ,as well as her ALT rose from 22U/L to 141U/L necessitating the need for close monitoring and prompt intervention due to rapid progression of bile acids over a short period of time. She went into pre-term labour herself before her agreed induction date and gave birth to healthy baby boy requiring Cat 1 LSCS due to intrapartum fetal distress. This case emphasizes the importance of early recognition, close monitoring and multi-disciplinary care in cases of early onset OC with rapidly rising bile acids to optimize maternal and fetal outcomes.

Keywords: Obstetric cholestasis, Intrahepatic cholestasis, Bile acid, Pruritus, Liver disease

Pre-recorded presentations

Barriers and facilitators to cervical cancer screening among under-screened women in Cuenca, Ecuador: the perspectives of women and health professionals

Bernardo Vega (EC), Jose Ortíz (EC), Heleen Vermandere (BE), Bo Verberckmoes (BE)

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Background

Cervical cancer screening is a cost-effective method responsible for a mortality reduction of 70% in countries that have reached high coverage through nationwide screening strategies. However, there are disparities in access to screening. In Ecuador, despite cervical cancer being the most frequent cancer in women, only 58,4% of women of reproductive age have ever been screened for cervical cancer during their lifetime.

Objectives

The aim of this research is to complement and update previous studies, by assessing the perspectives of under-screened women and health care providers regarding barriers and facilitators of cervical cancer screening in Cuenca, Ecuador.

Methods

A qualitative study was performed from April 2020 until March 2021, in Azuay province, Ecuador. Focus group discussions (FGDs) were organized with health staff and under-screened women separately, as this method allows participants to interact with each other which enriches the generated information. Two FGD guides were developed, one for women and one for health personnel. Key topics addressed during the discussions were opinions about or experiences with cervical cancer screening, opinions about national cervical cancer screening practices or programs, barriers that inhibit screening uptake and suggestions to address these barriers

Results:

Overall, 28 women and 27 HP participated in the study. Both groups perceived different barriers for cervical cancer screening. For HP, barriers were mainly allocated at the policy level (lack of a structured screening plan; lack of health promotion) and individual level (lack of risk perception; personal believes). Women identified mainly barriers at operational level, such as long waiting times, lack of access to health centers, and inadequate patient-physician communication. Both groups mentioned facilitators at policy level, such as national campaigns regarding cervical cancer screening, and at community and at individual level, including: health literacy and women empowerment

Conclusions.

From women s perspectives, access to health services is the main limitation; while for health professionals lack of investment in screening programs and cultural patterns at community level constitute major obstacles. To address cervical cancer prevention integrally, the perspectives of both groups should be taken into account.

Pre-recorded presentations

Role of self-sampling for the diagnosis of human papillomavirus in rural areas from Cuenca Ecuador: Acceptance, sensitivity and specificity among urine sampling, self-sampling and clinician sampling

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Background:

During 2020, 1534 new cases of cervical cancer were reported in Ecuador and 813 women died from this cause. Pap smear has decreased mortality of (CC), however in Ecuador 41.6% of women in their reproductive age have been never screened. Self-sampling techniques could overcome barriers and increase participation in screening and participation. Objectives 1.- To compare the sensitivity and specificity of urine and vaginal self-sampling test versus clinician sampling test, for HPV diagnosis. 2.- To compare the acceptability of urine and vaginal self-sampling methods versus clinician sampling among rural women

Methods:

A diagnostic test study was conducted in a rural parish of Cuenca, Ecuador. A total of 120 women participated. Each participant self-collected urine and vaginal samples and underwent clinician sampling for HPV testing. The latter was considered as the golden standard. After sample collection a questionnaire to qualify device and technique and individual acceptability was applied and additional overall preference of three sample tests was evaluated

Results:

A total of 120 women participated main chracteristicas are: median age 35 years; 40.8% married; median age of sexual onset, 17.6 years. Self-sampling sensitivity reached 94.4% (IC 74.2-99.9), and specificity 92.1% (IC 85.2-95.9). Urine sampling had a sensitivity of 88.8% (IC 67.2, 96.9), and specificity 94.1% (IC 67.2-96.9). Acceptability Compared with clinician sampling, both vaginal self-sampling OR 20.12 (7.67-52.8) and urine sampling OR16.63 (6.79-40.72), were more comfortable, granted more privacy: vaginal self-sampling OR 8.07 (3.44-18.93); urine sampling OR 19.5 (5.83-65.21, were less painful: vaginal self-sampling OR 0.07 (0.03-0.16); urine sampling OR 0.01 (0-0.06) and less difficult to apply: vaginal self-sampling OR 0.16 (0.07-0.34) urine sampling OR 0.05 (0.01-0.17). Overall preference has shown an advantage for vaginal self-sampling 4.97 (2.71-9.12). No statistically significant preference was demonstrated with urine self-sampling versus clinician sampling

Conclusions:

This study shows that vaginal and urine self-sampling methods have similar sensitivity and specificity compared with clinician sampling for the diagnosis of HPV. The correlation between HPV genotypes among the three tests is satisfactory. Self sampling methods have a high acceptance in rural communities.

Surgery and Endoscopy

Outcomes of Gynecologic Laparoendoscopic Single-Site Surgery with a Homemade Glove Port system in Singapore General Hospital

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CONTEXT

Conventional laparoscopic surgery offers a multitude of benefits and is widely used in gynaecological surgeries. However, it requires multiple accesses in the abdominal cavity. Laparo-endoscopic single-site surgery (LESS) is increasingly popular within minimally invasive gynaecological surgery for its feasibility, patient satisfaction, cosmesis and safety profile.

OBJECTIVE

To share our experience with LESS in various benign gynaecological conditions in Singapore General Hospital (SGH)

METHODS

A retrospective, single-institution study

PATIENT

137 cases of women who underwent LESS from 2016-2020.

INTERVENTION LESS

using conventional laparoscopic instruments and a homemade glove port system

MAIN OUTCOME MEASURE

Outcome measures studied include operative duration, estimated blood loss(EBL), Intraoperative complications, post-operative complications, blood transfusion requirement, pain score, hospital stay duration and readmission rate.

RESULTS

Out of 137 cases there were 64 total hysterectomies with bilateral salpingo-oophorectomy, 14 hysterectomies, 17 ovarian cystectomies, 24 bilateral salpingo oophorectomies, 16 unilateral salpingo-oophorectomy, 4 salpingectomy/ oophorectomies. The majority were American society of Anesthesiologists (ASA) class 2 (64.9%). The most common indications for surgeries were ovarian cysts (50.4%), fibroids (17.5%) and risk reduction surgery (16.1%) for BRCA 1 or 2 gene carriers. The mean age and body mass index were 49 +/- 2.4 years and 27.8+/- 3.15 kg/m(2). The mean operative time and EBL were 135.5 +/- 9.9 min and 116.4 +/- 17.9 mL. 1 patient had a conversion to mini laparotomy and 1 required an additional port placement. 1 patient required intraoperative blood transfusion. The mean hospital stay was 3.9 +/- 0.5 days. No patient experienced any major operative complications. The 30 Day readmission rate was 5.8%.

CONCLUSION

Our experience suggests that LESS can serve as a valuable approach for a range of benign gynecological procedures, offering effective and safe outcomes. It is essential to exercise caution in patient selection and acknowledge the learning curve to ensure the procedure's safety. The incidence of short-term adverse events remains low. Additionally, LESS presents potential cosmetic benefits when compared to traditional laparoscopic surgery. However, the long-term effectiveness and suitability of this technique requires comprehensive, multi-center trials and extended follow-up data.

Surgery and Endoscopy

Percutaneous transcatheter uterine artery embolization: 0 new approach to treat uterine fibroids

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I.m.sechenov First Moscow State Medical University

Study objective:

Percutaneous transcatheter embolization of the uterine arteries has been used in obstetric and gynecological practice since the late 1970s. The founder of the operation in patients with uterine leiomyoma was J.H. Ravina, who in 1994 in France performed the occlusion of the uterine arteries in order to reduce blood loss during subsequent myomectomy.

Aims:

Aim of study was improving the reproductive health and quality of life of patients with uterine fibroids through the use of modern minimally invasive technologies.

Materials and methods:

208 patients diagnosed with uterine fibroids preparing for surgical treatment underwent uterine artery embolization using two types of embolizates: occlusive coils, particles of polyvinyl alcohol (PVA). Of these, 174 (83%) subsequently underwent myomectomy (72 (34%) planned pregnancy), 34 (17%) underwent radical surgery. Surgical treatment was carried out at various times (from 2 to 7 days) after UAE, both to assess the hemostatic effect and to assess the morphological changes in myomas and perifocal tumors of the myometrium, endometrium and serous membrane.

Results:

Intraoperative blood loss decreased by an average of 30%. In all cases, fibroids transformed into a non-proliferating clinical and morphological variant, if it was proliferating. It should be noted that when PVA particles were used, not a single tumor was subjected to necrosis in any case, as well as the preservation of growth zones located perifocal to the myoma in the myometrium and small forming nodes of other myomas. During occlusion with spirals, more pronounced foci of necrosis affecting the surrounding myometrium were noted.

Conclusion:

The use of UAE in uterine myoma is advisable to reduce intraoperative blood loss, or in isolation in somatically severe patients. In patients planning pregnancy, it is advisable to use PVA particles as an embolizate, while in other cases it is necessary to use occlusal coils. Recurrence of fibroids (more precisely, recurrence of fibroid growth during its reverse transformation into a proliferating variant) or the development of new fibroids after UAE is possible.

Surgery and Endoscopy

Uterine isthmocele as a cause of AUB. Surgical Treatment Experience.

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Context

Isthmocele is a defect of myometrium that is a result of incomplete healing after a transverse incision in the lower segment, usually after cesarean section (CS).

As a consequence abnormal uterine bleeding (AUB), dysmenorrhea, chronic pelvic pain, dyspareunia can occur. Obstetrical complications and infertility are long-term consequences of this pathology. Blood accumulation in the myometrium defect area is a common cause of both AUB and infertility. Chronic inflammation is a factor of the development of micro- and macropolyps of endometrium.

Objective

To analyze the long-term results of hysteroscopic treatment of the isthmocele.

Methods

We performed hysteroscopic treatment for symptomatic patients with isthmocele with further follow up.

Patients

28 patients 37.1±4.03 (17-45 years) with a isthmocele were included in the study. The most common symptoms in this group were pain, recurrent endometrial polyps, AUB and infertility.

Intervention

Hysteroscopic resection of the niche edges, removal of fibrous tissue, coagulation of the isthmocele bottom were performed. Indications for hysteroscopy: AUB, endometrial polyps. 22 (78.6%) had fibrous glandular polyps, 20 (71.4%) had chronic endometritis, 9 (32.1%) had adenomyosis.

Main Outcome Measure

symptom relief

Results

In 2 years of follow up were detected cessation of AUB in 24 (85.7%) patients, relief of pain in 21 (75%) patients, ongoing pain in 2 (7.1%) (reduced intensity), postmenstrual discharge in 3 (10.7%). No endometrial polyps were detected. There were 5 pregnancies: 4 deliveries and 1 miscarriage.

Conclusions

Isthmocele is a common cause of AUB, secondary infertility, chronic endometritis and pregnancy complications.

Hysteroscopic correction of isthmocele provides good treatment outcomes for AUB and dysmenorrhea.

Surgery and Endoscopy

Changes in serum AMH and livebirth rate after endometrioma stripping surgery.

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Objective:

To investigate the ovarian reserve in women with endometrioma “e4 cm before and after laparoscopic endometrioma stripping surgery using bipolar current to achieve hemostasis and livebirth rate in women wishing to conceive.

Methods:

This prospective cohort study was conducted in the General Hospital, Subotica, Serbia, from February 2013. to November 2016. Study included 37 patients (n=37) with unil and 17 patients (n=17) with bil endometriomas The ovarian reserve was determined by measuring serum levels of AMH, FSH and Estradiol before, as well as 6 and 12 months after endometrioma cystectomy. Patients: Study included 54 patients of reproductive age from 18 - 42 years of age, with regular menstrual periods ranging from 25 to 35 days. The mean age of the patients at the time of surgery was 30.3± 4.5 years. The average severity of endometriosis according to the r ASRM was 49.7 ± 24.1.

Results:

The results of our study showed significant decrease in serum AMH level 6 ($p<0.001$) and 12 months ($p<0.001$) after laparoscopic cystectomy. Before and 6 and 12 months after the operation, in patients with uni endometrioma, the mean AMH value was 3.31, 1.43 i 1.72 ng/mL, while in patients with bil endometriomas was 2.55, 0.98 i 0.89 ng/ mL. Laparoscopic cystectomy of endometrioma led to a decrease in the serum AMH level and ovarian reserve by -53.27± 38.2% i 49.43± 38.3% 6 and 12 months after the surgery. We determined live birth rate in women wishing to conceive. 31 women (57.4%) (out of 54 who were operated) were interested in achieving pregnancy. 22 (70.96%) women (out of 31) became pregnant and gave birth to a live baby, of which 15 (48.38%) women became pregnant spontaneously and 6 (19.35%) by IVF. The total number of live births in 22 (70.96%) of 31 patients who were interested in pregnancy after the surgery (from spontaneous pregnancy and IVF) is 37 children.

Conclusions:

Based on the results of our study, we concluded that laparoscopic endometrioma stripping surgery leads to unwanted and inevitable damage to the ovarian reserve in patiens with uni and bil endometriomas. The decrease in ovarian reserve occurs immediately after surgery. Significant predictors of serum AMH levels 6 and 12 months after surgery include the baseline serum AMH level, patient age, and bilateral endometriomas. These findings must be considered when treating older patients or patients with bil endometriomas who are interested in preserving their fertility. It can be concluded that changes sholud be expected in endometrioma treatment either in the operative technique or energy using for achieving haemostasis.

Surgery and Endoscopy

Global wound healing management in post-caesarean and post-episiotomy with specific skincare

Helena Polena (FR), Elsa Tisserand (FR), Célia Tomelka (FR), Armonie Buisson (FR), Marlène Chavagnac (FR), Nathalie Ardiet (FR), Michèle Sayag (FR), Christelle Graizeau (FR)

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Introduction:

Even if the use of adapted cleanser and moisturizer in post-caesarean and post-episiotomy is commonly practiced to help wound healing, reduce discomfort sensations, and prevent scar, few studies are performed. The aim of this study was to evaluate new dermocosmetic cleanser and cream, mainly formulated with ingredients naturally present in the skin.

Materials & methods:

First, a corneometry was performed on the forearm of 9 subjects with dry skin to evaluate the moisturizing effect of the cleanser before (D0) and after 28 days (D28) vs. control. Then, an intra-individual clinical study was performed on 21 females in post-caesarean and post-episiotomy (mean aged 30 years, phototype III to VI) to evaluate its immediate and D28 effectiveness and its organoleptic qualities. On top, a non-comparative true-life study on 22 subjects (mean age 28 years, phototype I to V) was run with the cream on the massage of post-caesarean and post-episiotomy scars in remodeling phase during 14 days. We evaluated the global assessments (5-point scale, Vancouver Scar Scale [VSS]), skin colorimetry (chromameter) and scar thickness (ultrasound system).

Results:

The cleanser significantly increased skin hydration by +17% on D28 vs. D0 vs. the untreated area. In addition, all subjects appreciated the gentle cleansing and the ease of rinsing, and 95% appreciated the enveloping and creamy texture which avoids friction on the weakened area, and the remaining protective film. From the first application, they found their skin moisturized (95%), soothed (100%) and purified (100%). On D28, for 100% of them, their skin was soft and protected, with a restored skin comfort. Finally, the clinical trial with the cream shows significant decrease of scar color (-34%), scar pigmentation (-32%), thickness (-31%), vascularity (-49%), pliability (-46%), and VSS total score (-39%) at D14. In addition, a significant improvement of the skin lightness (+6%), redness (-23%), skin color homogeneity through delta E (-28%), and a decrease of scar marks was noticed, as well as the scar thickness at D14 vs. D0. For both products, the tolerance was very good.

Conclusion:

These new specific skin healing products demonstrate significant soothing and repairing efficacy in post-caesarean and post-episiotomy scars, while being well tolerated.

Surgery and Endoscopy

Assessing the efficiency of prophylactic use of local tranexamic acid during vaginal hysterectomy to reduce intraoperative blood loss - a double blinded randomised controlled trial

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All India Institute of Medical Sciences Jodhpur

Objective:

To evaluate the efficiency of Prophylactic use of local Tranexamic acid (TXA) in vaginal hysterectomy to reduce intraoperative blood loss and to compare it with normal saline infiltration..

Method:

The sample size was calculated on the basis of previous study G S Caglar et al (2007).(1) by assuming 5% level of significance & 80% power of the study. Its is to enrol 164 patients over a period of 2 years(August 2022 to August 2024) after approval from Institution Ethical Committee. Women posted for elective vaginal hystrectomy are enrolled. The study has been registered under Clinical Trials Registry India (ctri.nic.in).It is a Double blinded Randomized Control Trial conducted in the Department of Obstetrics and Gynaecology, AIIMS Jodhpur which is an ongoing study, 50 patients being enrolled till July 2023. Patients excluded if they are allergic to tranexamic acid, history of seizures ,venous or arterial thromboembolism, severe renal impairment. Among these none fitted into criteria for exclusion. Block randomization done and randomized as Group A: Intervention Group (Local Tranexamic Acid) and Group B: Control Group (Local Saline infiltration).Prior to incision, 1 gm of tranexamic acid in 20 ml saline (Total 30 ml) or saline (30 ml) is infiltrated locally on both sides of paravesical spaces, paracervical part of Mackenodt ligaments and bladder pillars. Intraoperative blood loss was calculated by measuring the volume in suction apparatus and weight of mops and gauzes. Two groups compared for age, body mass index, hemoglobin and hematocrit, blood loss, duration of surgery. Also the need for IV tranexamic acid(blood loss more than 500ml) or any blood transfusion requirements post operatively within 24 hours were also considered.

Results:

No significant difference was found between the two groups for age, body mass index, parity. The total intraoperative blood loss which is calculated by weights of mops and gauze used and blood loss in suction apparatus was 184.72±71.07 ml in Group A and 260.68±85.05 ml in Group B with P value of 0.001, which is statistically significant. Additional need for IV tranexamic acid was 8% in group A whereas 20% in group B. In both groups, none of the patients required blood transfusion. No complications in either group.

Conclusion:

Prophylactic Use of local Tranexamic acid can significantly reduce intraoperative blood loss during Vaginal Hysterectomy .No incidences of adverse events occurred.

Surgery and Endoscopy

Hysteroscopic resection of complete uterine septum using Foley catheter balloon

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[Triantafyllidou] [Vlahos] Aretaieio University Hospital,
[Panagodimou] [Neofotistos] Iaso Maternity Hospital

Context:

We present a case of complex genital tract anomaly (U2bC2V1), including cervical duplication and vaginal septum in 30-year-old nulliparous woman and its novel hysteroscopic resection using Foley catheter balloon.

Objective:

Septate uterus is the most frequent congenital anomaly accounting for 35% of all uterine anomalies. The reproductive outcomes in women with such anomaly range widely: from normal to severe adverse outcomes, including infertilyty preterm birth or miscarriage.
Methods/Patient(s)/

Intervention(s):

A 30-year-old G0P0 woman presenting with dyspareunia attended our clinic for consultation. The gynecological examination revealed a longitudinal non-obstructing vaginal septum with a well-formed cervix in the right and a hypoplastic one in the left side. During 2D ultrasound complete septate uterus was revealed and patient was referred for pelvic MRI to confirm this finding. MRI findings enabled classification of the identified anomaly as U2bC2V1 (according to the new ESHRE/ESGE classification system of female genital anomalies). The patient underwent resection of the vaginal septum. Operative hysteroscopy was followed by using bipolar hook-shaped electrode and Foley catheter balloon, which was inserted in the left endometrial semicavity. ¤he balloon was filled with 6 ml normal saline in order to push the septum to the opposite direction. This manipulation allowed us to have a better visualization of the septum and its guide points. The initial incision was made at the point of the largest projection of the uterine septum (at the point where the balloon was pressing) and as soon as the initial resection was made, we were able to see the balloon and the left semicavity. We continued the resection without injuring the anterior or posterior wall.
Main Outcome Measure(s)/Result(s): The proper management of uterine septum includes hysteroscopic resection. Sometimes the resection may be very challenging, especially in cases with complete septum. It is difficult to determine the correct margins of the septum with the risk of injuring both anterior and posterior walls of the uterus and creating postoperative adhesions.

Conclusions:

We used Foley catheter balloon in our case to create bigger projection of the uterine septum. That was very simple and cheap manipulation for initial incision and better visualization of opposite uterine semicavity and guide points.

Surgery and Endoscopy

Influence of polypropylene mesh degradation on tissue inflammatory reaction

Hongshi Wang (DE)

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Polypropylene degradation in vivo appears as mesh surface cracking and peeling. This aging process of the mesh, resulting in the lack of bio-stability, contradicts the requirement of biocompatibility. However, to date, it is still not clearly established how much this mesh degradation influences the local tissue response with subse- quent clinical consequences. This study aims to find out whether mesh degradation is correlated with elevated inflammatory tissue reaction through analyzing 100 human PP meshes explanted from the pelvic floor. A degradation classification method, based on standard pathological H&E stained slides of the explanted mesh via light microscope, was developed to classify the mesh degradation into four classes (no, mild, moderate and severe degradation). The peri-filamentary tissue inflammatory reaction was analyzed by scoring the expression of the most common cell markers for the innate immune reaction: CD68 as marker for macrophage, CD86 for M1 sub- type, CD163 for M2 subtype, CD3 for T-lymphocyte and CD15 for neutrophil granu- locytes. The correlation between immune cell expression, degradation classification and time of implantation of the meshes are evaluated with Spearman-Rho-Test. Mesh degradation worsens significantly ($p < .001$) with longer time of implantation. The increasing tendency of CD68 expression by mesh with higher degradation class indicates that the number of macrophages increases with worsening mesh degrada- tion. The significantly increased expression of CD163 and CD3 cell by severely degraded mesh demonstrate the increased number of M2 and T-Lymphocyte when mesh degradation becomes severe. None of the inflammatory cells show the usual declining expression with longer time of implantation. The result of this study sug- gests that the degradation of PP mesh results in an elevated local inflammatory reac- tion in female pelvic floor. A material with better bio-stability for mesh implant in pelvic floor is required.

Poster Session

01. Adolescence

P01 - Delayed Presentation of Herlyn-Werner-Wunderlich Syndrome. A Rare Congenital Anomaly presenting in gynae emergency

Hira Mumtaz (GB)

Basildon University Hospital, Mid and South Essex NHS Trust

Context:

Herlyn-Werner-Wunderlich syndrome (HWWs) is a rare müllerian abnormality resulting in varying presentation, especially after puberty. Timely and appropriate diagnosis and surgical management can improve the quality of life of these patients, who otherwise may suffer from prolonged ongoing symptoms and complications in the future of endometriosis, recurrent UTI, chronic pelvic pain and discomfort and possible subfertility etc due to these anatomical abnormalities.

Background:

Herlyn-Werner-Wunderlich Syndrome (HWWs) is a rare congenital condition involving uterus didelphys, obstructed hemi-vagina, and ipsilateral renal agenesis due to abnormal development of ducts. Diagnosing Müllerian anomalies can be challenging due to varying symptoms. A case of delayed HWWs presentation in an adult woman is discussed, emphasizing the need for early referral to specialized care.

Method:

A 25-year-old woman presented in Gynae emergency with a history of pressure in the vagina and recurrent UTIs. She had a single right kidney which was diagnosed in utero. Only finding in the examination was bulge in the vagina. Ultrasound scan showed w=two uterus with collection on the right side. MRI was requested for clarity which diagnosed with Herlyn-Werner-Wunderlich Syndrome (HWWs) with ectopic ureter on the left a rare condition involving uterus didelphys, obstructed hemi- vagina, and ipsilateral renal agenesis. Laparoscopy confirmed didelphys uterus, hysteroscopy confirmed the septum on the left which was resected and the collection drained and successfully treated the condition, and she was referred to a urologist for further urinary symptoms management.

Conclusion:

Herlyn-Werner-Wunderlich syndrome diagnosis is challenging, but early detection with pelvic ultrasound can aid in diagnosis; treatment involves resecting the hemivaginal septum.

01. Adolescence

P02 - Fertility Preservation and Risk Reducing Surgeries in Adolescents: Can You Have it All?

Ellen Myers (US)

Christiana Care Health System

Objective:

Review comprehensive treatment, management, surveillance, and fertility preservation in an adolescent with a high risk for aggressive early-onset ovarian cancer.

Methods:

Case report followed by literature review.

Patient(s):

13-year-old pre-menarcheal female with a familial pathogenic variant in the SMARCA4 gene associated with aggressive and early onset small cell ovarian cancer hypercalcemic type (SCCOHT) with a significant family history of adolescent metastatic ovarian cancer.

Intervention(s):

The family underwent counseling, ethics consults, and baseline testing. She underwent ovarian hyperstimulation, oocyte retrieval, and cryopreservation followed by risk-reducing bilateral salpingo-oophorectomy (BSO) and hormonal replacement therapy.

Main Outcome Measure(s):

Evidence of disease, future fertility options and hormonal replacement.

Result(s): This is the first adolescent with a SMARCA4 mutation reported to undergo prophylactic BSO. Surgeries were uncomplicated with no pathologic evidence of pre-malignant or malignant changes. To date, she has no evidence of disease; oocytes have not been thawed. Hormonal replacement therapy was initiated with transdermal estradiol 0.1 mg/24 hour and 10 mg of daily oral medroxyprogesterone acetate; she transitioned to daily oral ethinyl estradiol 1.5 mg and norethindrone 30 mcg due to skin irritation with transdermal replacement.

Conclusions:

We will likely increasingly identify younger patients with high risk for morbid disease impacting fertility. This case reviews the balance between fertility preservation and management of reproductive tract tumors in adolescents. It addresses current and experimental fertility preservation options for pre-menarcheal patients and long-term management of surgically induced premature ovarian insufficiency.

02. Abnormal Uterine Bleeding

P03 - The role of ARID1A in endometrial dysfunction in patients with abnormal uterine bleeding and obesity

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The pathogenetic relationship between obesity and endometrial dysfunction (AUB E) has not been sufficiently studied. One of the possible pathogenetic mechanisms of the latter may be delayed regeneration of the endometrium. ARID1A plays an important role in the regulation of DNA synthesis, transcription, DNA methylation, repair of DNA damage, and is a marker of oncosuppression in endometrial cancer.

Aim: to evaluate the role of ARID1A in the development of endometrial dysfunction in patients with AUB-E, obesity.

Methods 40 endometrial biopsies of patients with a verified diagnosis of AUB belonging to the category of AUB-E were included in the study. The patients were divided into two groups: group I, BMIe30 kg/m2(n=20)

02. Abnormal Uterine Bleeding

P04 - Clinicopathological characteristics of patients with abnormal uterine bleeding in southwest China

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Context:

Abnormal uterine bleeding (AUB) is one of the most common gynecological diseases. FIGO classified the etiology of AUB into nine categories, known as PALM-COEIN. No studies have described the bleeding pattern and etiology of AUB patients in southwest China. Most guidelines agree that endometrial biopsy can identify endometrial malignancy in patients with AUB, but there are some debates about who receives the biopsy.

Objective:

To describe the clinicopathological features of inpatients with AUB in southwest China and identify the appropriate population for endometrial biopsy.

Methods:

We retrospectively collected clinical and pathological data of patients with AUB who underwent hysteroscopic surgery in our department located in southwest China. All patients were grouped according to the PALM-COEIN system. The baseline characteristics and the follow-up treatment after hysteroscopy were compared.

Patients: We included patients with AUB who were admitted to our department between January 1, 2021, and December 31, 2021. Patients without hysteroscopic surgery to obtain an endometrial biopsy were excluded.

Interventions: All patients underwent hysteroscopic surgery.

Main Outcome Measures: Pathological diagnosis was based on the new classification system of AUB etiology of FIGO: PALM-COEIN system. Endometrial thickness was measured by ultrasound.

Results:

We included 567 patients with a primary diagnosis of AUB who underwent hysteroscopic surgery. The median age was 45 years (21 to 55 years). The most common bleeding pattern of AUB was prolonged menstruation (76.54%). According to the PALM-COEIN system, the most common etiology of AUB was ovulatory dysfunction (63.32%), followed by endometrial polyp (26.81%), endometrial atypical hyperplasia/malignancy accounted for 1.23%. The levonorgestrel intrauterine system (38.62%) was the most popular choice of postoperative treatment. The endometrial lining in the groups with endometrial polyp and endometrial atypical hyperplasia/malignancy was significantly thicker than other etiologies ($p < 0.001$). Hemoglobin in the uterine fibroids group was lower than other groups ($p = 0.023$).

Conclusions:

Ovulatory dysfunction is the most common etiology in patients with AUB. Endometrial polyp and endometrial atypical hyperplasia/malignancy have significantly increased endometrial thickness. When endometrial thickness e 12mm and abnormal uterine bleeding occurs, a hysteroscopic endometrial biopsy should be considered."

04. Breast

P05 - Blood groups type linked to breast cancer in a Case-Control Retrospective Study

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Objective:

To investigate a potential link between ABO blood types and breast cancer in Greek women.

Methods:

Our case-control study enrolled 391 women who visited two breast clinics in Greece. Especially, 238 patients with breast cancer and 153 healthy women as the control group were examined clinically and with breast ultrasound and those older than 40 years old, also with bilateral digital mammography.

Results:

In the case-group, 22.7% had blood group O, 7.6% had blood group B, 64.7% had blood group A and 5% had blood group AB. In the control-group, 49% had blood group O, 14.4% had blood group B, 29.4% had blood group A and 7.2% had blood group AB. Breast cancer and blood group A were significantly correlated, according to the Pearson and Spearman test using the t-test in SPSS ($p<0.001$). Our study has no bias in the sampling process.

Conclusion: Although there is still debate in the literature over whether ABO/Rh blood groups are linked to breast cancer, the findings of our study highlighted a strong association between breast cancer and blood group A. Additional study involving a larger sample size of patients is necessary to verify this potential relationship.

Key-words: Breast cancer; Blood groups; ABO; Breast cancer risk factors

04. Breast

P06 - The association between Ki67 index and axillary lymph node metastasis in breast cancer: a Case-Control Retrospective Study

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Objective:

The Ki67 protein is linked to cell proliferation and, as a result, provides an indication of the aggressiveness of the disease, making it a helpful marker for treatment selection in breast cancer. The link between Ki67 and other tumor characteristics, such as axillary lymph node metastasis, remains an open subject, notwithstanding prior studies. The main objective of this study was to investigate a potential association between Ki67 index and axillary lymph node metastasis in breast cancer.

Methods:

Our case-control study enrolled 238 women with breast cancer who visited two breast clinics in Greece.

Results:

For 24 of 238 patients (10.1%) with breast cancer, the status of axillary lymph nodes was not studied. 133 of the 238 patients (55.9%) with breast cancer had negative lymph nodes. 6 of the 238 patients (2.5%) with breast cancer had a lymph node with micrometastasis and 34 of the 238 patients (14.3%) had a lymph node with metastasis from the carcinoma. In addition, 19 of 238 patients (8%) with breast cancer had 2-3 lymph nodes with metastasis from the carcinoma, and 22 of 238 patients (9.2%) had >3 lymph nodes with metastasis from the carcinoma. For 30 of the 238 breast cancer patients (12.6%), Ki67 information was not available. 84 of the 208 (40.4%) patients for whom Ki67 information was available had Ki67d14%, while 124 of the 208 (59.6%) had Ki67”e15%. There is an association between positive axillary lymph nodes and Ki67 (p=0.038) according to the Spearman test using the t-test in SPSS 20. Especially, our study indicated higher Ki67 values were significantly associated with an increased likelihood of axillary lymph node metastasis.

Conclusion: The findings of our study highlighted an association between Ki67 index and axillary lymph node metastasis in breast cancer, thus raising the question of whether we are able to identify breast cancer patients for whom sentinel lymph node biopsy might be avoided. Additional study involving a larger sample size of patients is necessary to verify this potential relationship.

Key-words: Breast cancer

06. Endometriosis/Adenomyosis

P07 - GnRH agonists treatment outcome of deep infiltrating endometriosis

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NCMCH

Context:

Gonadotropin-releasing hormone (GnRH) agonists are the first line treatment for endometriosis.

Objective:

This study aimed to diagnose, staging and to evaluate GnRH agonists treatment outcome of adenomyosis of uterus and deep infiltrative endometriosis of rectocervical- rectoovaginal pouch.

Methods:

We conducted clinical trial study and woman who met diagnostic criteria of deep infiltrative endometriosis treated with GnRH agonists for 6 months and evaluated treatment outcome in every 3 months.

Results:

The study included 27 woman aged between 25 and 46 (38.15±5.7) and 10 of them (37%) have adenomyosis of uterus and 17 (63%) were diagnosed with deep infiltrative endometriosis of rectocervical- rectovaginal pouch. The main clinical symptoms of endometriosis were chronic pelvic pain, dysmenorrhea and dyspareunia. Before had the treatment initiated, temporary disability due to endometriosis pain was major impact in 15 (55.6%) woman and a minor impact in 12 (44.4%) woman with their daily lives. Changes in the intensity of symptoms over 3 months after GnRH agonists treatment were determined that working disability has gone in 6 (22.3%) woman and have minor disability in 21 (77.7%) woman. After the 6 months of the treatment, minor disability due to endometriosis pain was in 6 (22.3%) woman and no disability in 21 (77.7%) woman.

Amenorrhea was detected in 26 (96.3%) woman when 3 months after the GnRH agonists reatment, meanwhile 27 (100%) woman have experienced amenorrhea after the 6 months GnRH agonists treatment. In the first ultrasound examination, median length of adenomyosis was 5.7 cm and AP diameter was 3.9 cm, 3 months after the GnRH agonists treatment, ultrasound measurements was decreased to 5.32 cm and 3.71 cm and 6 months after the treatment it has decreased to 5.14 cm and 3.48 cm respectively. Also the size of the endometriosis of rectocervical- rectoovaginal pouch was decreased from median length of 3.33
cm and AP diameter of 2.12 cm to 2.75 cm and 1.64 cm resulted in 3 months treatment. At 6 months of GnRH agonist treatment, size of the endometriosis was measured median length of 2.03 cm and AP diameter of 1.13 cm by the ultrasound examination.

Conclusions:

The GnRH agonists treatment were beneficial impact in reduce the pain related deep infiltrative endometriosis and work ability of woman has improved.

06. Endometriosis/Adenomyosis

P08 - Respiratory Viral Infection Associated Thoracic Endometriosis: case report

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In April 2023, a 40-year-old woman was admitted to the Outpatient Clinic of Gynecological Department of Federal Medical Hospital with complaints on hemoptysis. The patient had been suffering from this condition for a year.
In gynecological anamnesis the attention should be paid to the fact that the patient had 3 pregnancies with 1 early miscarriage, 1 natural child delivery and 1 bichorionic biamniotic twins delivered via C-section in 2020.
In general anamnesis, it should be mentioned that the patient had an ischemic stroke in 2017.
In November 2022 the patient was hospitalized in pulmonology department with her first ever episode of hemoptysis after having acute respiratory viral infection for 2 weeks (COVID test negative). The chest X-ray showed no focal or infiltrative shadows. Endoscopic examination of the trachea and bronchi revealed diffuse bilateral atrophic bronchitis (primary dystrophic form), there was no data for pulmonary hemorrhage received. Chest CT demonstrated signs of right-sided polysegmental pneumonia with a high probability of viral etiology. Lung ultrasound showed no signs of pathological changes. Two weeks later, repeated chest CT pneumofibroisis (COVID test positive). The patient was discharged from the hospital.
Since December 2022 until April 2023, the patient noticed monthly episodes of hemoptysis from the 1st until the 5th day of the menstrual cycle. Our team decided to perform a repeated chest CT, which revealed the ectopic endometriosis lesion in the upper lobe of the right lung, followed by a biopsy taken from the newly revealed lesion, which proved the diagnosis of lung endometriosis. The patient was prescribed with 2 mg daily dosage of Dienogest pills for 1 year. The mid-term appointment with the gynecologist specialist 3 months later showed regression of hemoptysis.
Conclusion: The diagnosis of thoracic endometriosis is complicated and often delayed. Our clinical case report proved that manifestation of this medical condition might be associated with previous respiratory lung infection in the anamnesis. Thus, the diagnosis of thoracic endometriosis should be suspected in a reproductive age woman with exacerbating symptoms during the menstruation.

06. Endometriosis/Adenomyosis

P09 - Estetrol, a potential treatment for endometriosis - in vivo study

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Context:

Endometriosis (EDT) is a gynecological chronic disease characterized by the growth of endometrial-like tissue outside the uterus. It affects at least 10% of women worldwide, severely impacting their health and life quality. Commonly, it is associated with severe pelvic pain and infertility. Endometriosis is known as an estrogen-dependent and P4-resistant disease, mainly characterized by the alteration in the expression of estrogen (ERs) and progesterone (PRs) receptors. Other studies have proposed that high ER² levels suppress ER± expression, thus contributing to secondary PR deficiency and progesterone resistance.
Estetrol (E4) is a natural estrogen produced only by the fetal liver during pregnancy. Nowadays, it is a potential drug for human use in hormone replacement therapy, osteoporosis, and contraception. E4 is considered a weak estrogen, and to date, there are no studies about E4 as a treatment for EDT in vivo models.

Objective:

Evaluate the effects of E4 on an experimental model of endometriosis in vivo.

Methods

Endometriosis was induced surgically in female C57BL/6 mice. E4 was delivered continuously by Alzet pump (3 mg/kg/day) from the 15th postoperative day. Controls only received the vehicle. Over 4 weeks of treatment, the animals were euthanized. Eutopic lesions were counted, measured with a caliper, removed, and weighed. Analysis of cell proliferation and apoptosis of the tissue was made by PCNA immunohistochemistry and TUNEL, respectively. Determination of receptor expression (Er±, ER², and PRAB) was carried out by RT-qPCR.

Results:

In this study, E4 significantly reduced the volume ($p<0.001$) and weight ($p<0.05$) of ectopic lesions in mice with endometriosis. Histologically, E4 did not affect cell proliferation whereas it increased cell apoptosis ($p<0.05$). Molecular analysis shows ER² was reduced ($p<0.05$), in contrast with the increased expression of Er± ($p<0,01$) and PRAB ($p<0.05$).

Conclusions:

The present study demonstrates for the first time that E4 limited the development and progression of the EDT in vivo. Furthermore, the treatment might restore the altered expression of the receptors related to the disease progression (ERs and PRs). Our findings suggest that E4 might be considered a treatment potential for EDT.

06. Endometriosis/Adenomyosis

P10 - Effect of ammonium tetrathiomolybdate on the inflammatory state and sensory reinnervation of endometriotic-like lesions induced in mice.

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Context

Endometriosis (EDT) is a chronic, inflammatory, and highly prevalent gynecological disease. Pain is one of the main symptoms that affect the life quality of patients. We have shown that ammonium tetrathiomolybdate (TM) inhibits the growth of endometriotic-like lesions in mice with a good safety profile. Since several studies suggest a relationship between inflammation and aberrant innervation with pain in EDT, it would be interesting to analyze possible changes in these processes as a consequence of TM administration.
Objective
Our objective was to analyze whether oral administration of TM to EDT-induced mice alters the levels of proinflammatory cytokines and the sensory reinnervation of lesions.

Methods

Female C57BL/6 mice were divided into three groups: 1) Sham 2) EDT and 3) EDT+TM. The EDT induction consisted of autologous uterine tissue transplantation to the intestinal mesentery. TM was administered orally (0.30 mg/day/mouse) from postoperative day 15, animals were euthanized 1-month after inducing pathology. Peritoneal fluid (PF) was collected to determine the levels of the cytokines TNF-± and IL-1² by ELISA. Lesions were processed for the analysis of the brain-derived neurotrophic factor (BDNF) and neural growth factor (NGF) protein expression by ELISA, and mRNA expression of Tnfa, Il1b, Bdnf, Ngf, p75 neurotrophin receptors (p75NTR), Pgp9.5 (a pan-neuronal marker), tachykinin 1 (Tac1), tachykinin receptor 1 (Tacr1), calcitonin-gene related peptide (Cgrp), calcitonin receptor-like receptor (Crlr), receptor activity-modifying protein 1 (Ramp1), and transient receptor potential cation channel V1 (Trpv1) by RT-qPCR.

Results

TM administration decreased the levels of both proinflammatory cytokines in PF and their mRNA expression in lesions. Furthermore, the treatment decreased the expression of Bdnf and Ngf, involved in neuron survival and differentiation, and their common receptor p75NTR in the lesions. It even reduced the NGF protein expression. In the lesions, TM also decreased the mRNA expression of Pgp9.5, the sensory neuropeptides Tac1 and Cgrp, and the components required to form functional CGRP receptors (Crlr and Ramp1), compared to the EDT group. Even the treatment decreased the Trpv1 mRNA expression, which is associated with chronic pelvic pain in EDT.

Conclusions

Our results suggest that TM decreases the levels of the main cytokines involved in EDT and affects the sensory reinnervation of endometriotic-like lesions induced in mice.

06. Endometriosis/Adenomyosis

P11 - A rare case of unexpectedly high Ca 125 in a perimenopausal woman with enlarged uterus

Katja Juvan (SI), HELENA `AVC (SI)

General hospital Slovenj Gradec

A rare case of unexpectedly high Ca 125 in a perimenopausal woman with enlarged uterus
Juvan, Katja; `avc, Helena.

Context

CA-125 is a glycoprotein, traditionally associated with ovarian cancers. It can be elevated in other benign conditions, but very seldom in the range of levels around 1000IU/ml.

Objective

We present a rare case of a perimenopausal woman who presented with severe adenomyosis and high CA-125 to highlight that unexpectedly high CA-125 over 1000 IU/ml can be seen in benign gynaecologic conditions other than malignancy.

Methods / Patient /Case report

A 56-year-old patient presented to our department with abnormal uterine bleeding. An enlarged bicornuate uterus was found, reaching 2 cm above the umbilicus. Ultrasonically the size and the ultrasonic features of the large uterus were inconclusive, the ovaries could not be defined clearly due to the uterine size. The laboratory findings revealed an anaemia (Hb 107 g/l and an unexpectedly high CA-125 (> 600 and 1458 IU/ml repeated twice two days apart). The high levels of the marker highly suggested a malignant disease. Consequently, the patient was operated in a tertiary centre. The histological examination of the surgically removed uterus confirmed the adenomyosis within the myometrium.

Intervention/Main outcome measure

CA-125 decreased to 62 IU/ml in 10 days postoperatively and finally to 9,2 IU/ml three months after surgery.

Results/Conclusions

Benign gynaecological conditions, such as adenomyosis and leiomyomas of an enlarged uterus can sometimes result in unexpectedly high CA-125 (over 1000 IU/ml).

10. Fertility Preservation

P12 - Factors associated with successful intraoperative oocyte retrieval for fertility preservation during open pelvic surgery for gynecologic indications

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Objective:

The study investigated factors associated with successful intra-operative oocyte retrieval for fertility preservation during transabdominal gynecologic surgery.

Methods:

A total of 29 patients aged between 16 and 40 who underwent intraoperative oocyte retrieval during surgery at Seoul National University Bundang Hospital from May 2014 to August 2022 were enrolled in the study. Their controlled ovarian stimulation and fertility preservation outcomes were retrospectively analyzed.
Patients: Those who underwent transabdominal gynecologic surgery were included.
Intervention: Intraoperative oocyte retrieval during surgery.
Main outcome measure: The number of cryopreserved oocytes or embryos.

Results:

Among 29 patients who underwent intra-operative oocyte retrieval during staging surgery, 27 unmarried women had oocyte cryopreservation, and two married women had embryo cryopreservation. Oocytes were obtained in 24 patients, representing 82.8% of the retrieval rate (24/29), and two patients returned to use cryopreserved oocytes (6.9%). No pregnancy has been reported yet. Among 24 women who succeeded in obtaining oocytes, 20 patients succeeded in oocyte cryopreservation, and two patients proceeded to embryo cryopreservation. The cryopreservation rate was 91.7% (22/24). The median number of retrieved oocytes was five, and the median number of cryopreserved oocytes was four. All patients with failed oocyte retrieval (n=5) and cryopreservation (n=7) were diagnosed with malignancy. Ovarian reserve, measured as anti-müllerian hormone (AMH) of those with successful cryopreservation oocytes, was higher than those without cryopreservation (4.10 ng/mL vs. 1.18 ng/mL, $p = 0.003$). A higher portion of the unstimulated cycle was observed in those with failed cryopreservation (8.3% vs. 40.0%, $p = 0.01$). No complications were noted.
Conclusion: For women with planning to undergo open pelvic surgery for gynecologic indications, intra-operative oocyte retrieval can be an efficient and safe option for preserving fertility. High serum AMH and ovarian stimulation prior to surgery may predict successful oocyte cryopreservation.

10. Fertility Preservation

P13 - Arteriovenous malformation post-surgical management of caesarean section scar pregnancy

Alina Maria Unipan (GB), Mona Sharma (GB)

Queen's Hospital Romford London

Context:

Caesarean section pregnancy has an incidence estimated at 1 in 1800 to 1 in 2226 pregnancies and accounts for 6.1% of ectopic pregnancies.

Objectives:

Caesarean-section pregnancies could be complicated by an arteriovenous malformation (AVM), a life-threatening condition and clinicians should take into account this possible complication when managing scar ectopic pregnancies. An AVM is defined as an abnormal vascular shunt between myometrium vessels.

Method/ Case report:

We present the case of 32 years old woman with a previous caesarean section, presenting at seven weeks gestation with vaginal bleeding. A transvaginal ultrasound diagnosed a caesarean section scar pregnancy. The treatment options were discussed and the patient opted for surgical management but chose a different unit due to social circumstances. She returned to our unit two weeks post-surgery with signs of sepsis for which she was admitted and managed accordingly. Four weeks post-surgery she presented with recurrent episodes of heavy vaginal bleeding, abdominal pain and a positive urine pregnancy test.
Transvaginal ultrasound revealed dilated tortuous vessels with a multidirectional flow, around the caesarean section scar highly suggestive of arterio-venous-malformation.

Interventions:

The patient was counselled regarding treatment options and associated risks (including a hysterectomy should the bleeding be severe and difficult to control). CT angiogram described an arterio-venous-malformation in the anterior lower segment of the uterus with high flow and early venous filling. Following a multidisciplinary assessment, the recommended treatment was uterine artery embolization. The patient was counselled on fertility implications of uterine artery embolization and the complications of arterio-venous-malformation in the absence of treatment.

Main outcome:

Uterine artery embolization achieved over 95% devascularisation of the affected area confirmed on post-intervention angiogram and transvaginal ultrasound.

Results:

The patient became symptom-free following the procedure. Her follow-up plan included monitoring serum HCG levels until negative values were recorded.
Conclusion: Arterio-venous-malformation diagnosis is challenging in post-caesarean scar ectopic cases and can cause life-threatening haemorrhage. AVM in caesarean-section pregnancy is very rare, with no more than 150 cases reported in the medical literature.

11. Fibroids

P14 - The effect of combined hormonal contraceptives on the quality of life of women with uterine fibroids

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North-Western State Medical University named after I.I. Mechnikov

Context.

25% of patients with uterine fibroids have clinical manifestations of the disease. Combined hormonal contraceptives (CHC) in women with such diagnosis can lead to reducing of the volume, duration of menstruation and the intensity of associated pain. Few studies have been published to assess the quality of life of women with uterine fibroids.

Objective.

To study the quality of life in patients with uterine fibroids.

Methods.

We used clinical-anamnestic, ultrasound methods, a questionnaire method (questionnaire “The Short Form-36 Medical Outcomes Study (SF-36)”), and a statistical method.

Patients.

91 women (18-49 y.o.) were included in our study; 66 of them had myomatous nodes F3-F6 (there were no indications for surgical treatment).

Interventions.

A questioning (initial and after 6 months of the observing) was conducted in 31 women with uterine fibroids who used CHC (I main group), and in 35 patients with uterine fibroids without CHC (II comparison group). The control group (III) consisted of 25 healthy women.

Main outcome measures.

SF-36 indicators were assessed: general physical (PH physical health); general mental well-being (MH mental health); the sum of indicators on both scales (the norm is e 100) (±Ã).

Results.

Initial average value of the PH-indicator in patients with uterine fibroids (I: 53±7

11. Fibroids

P15 - The effectiveness of various methods of treating uterine fibroids to restore reproductive function

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Tashkent state dental institution

In the structure of gynecological morbidity among women of reproductive age, uterine fibroids occupy one of the leading places. The presence of fibroids leads to the development of infertility, which significantly reduces the quality of life of women. The use of hormonal or non-hormonal treatment methods has had varying degrees of success in restoring women's fertility.

The purpose of the study was to determine the effectiveness of various methods of treating uterine fibroids in women with infertility. The examination included 64 women of reproductive age with an established diagnosis of fibroids and infertility. A medical history, gynecological examination, and ultrasound of the pelvic organs with Doppler sonography of blood flow in and around the myomatous nodes were performed. To exclude tubal infertility, hysterosalpingography was performed. The age of the subjects ranged from 27 to 42 years and averaged 37.2±5.4 years. The main complaints of the examined women were infertility, abnormal uterine bleeding, and algomenorrhea. In the majority of patients, one fibroid node was detected (64.1%), in the rest - two or more nodes. The location of the nodes was predominantly intramural (76.6%, $p<0.05$), in a quarter of cases it was submucosal.

After diagnosis, the patients were divided into groups depending on the treatment: group 1 - 20 women who received ulipristal acetate for 3 months of the 2nd course, group 2 - 12 women who used a levonorgestrel-containing intrauterine device for a year after its removal and group 3 - 32 women who produced by embolization of utery artery (UAE). One of the modern highly effective operations is endovascular embolization of the uterine arteries (UAE). The goal of UAE is to stop blood flow within the myomatous nodes in combination with minimal damage to the intact uterine arterial branches. The women were observed for 1 year, and ultrasound monitoring was performed to monitor the size of the nodes and blood flow in and around the nodes. Studies have shown that a decrease in the size of myomatous nodes was observed in all patients, but much faster in group 3, already 3 months after UAE. Restoration of reproductive function during the first year after treatment occurred in group 1 in 45%, in group 2 in 41.7% and in group 3 in 56.3% of patients. Conclusions. In women with infertility and uterine fibroids, intramural nodes are most often identified, and in a quarter of cases, submucosal nodes. UAE has proven to be a more effective treatment method for restoring fertility.

11. Fibroids

P16 - Pregnancy management and delivery in women with fibroids

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Relevance. In the last decade, the tendency of pregnancy in women of reproductive age against the background of uterine fibroids has increased. The course of pregnancy in such women has its own peculiarity, often the presence of fibroids leads to complications of pregnancy and childbirth, often accompanied by the development of fetoplacental insufficiency and the threat of termination of pregnancy. Pregnancy itself has an effect on uterine fibroids, namely, the size and number of nodes increases, and a violation of the blood supply to myomatous nodes may also develop, which is accompanied by node necrosis.

The purpose of this study: to study the effect of uterine fibroids on the course of pregnancy and childbirth.

Material and methods. We examined 74 pregnant women who were admitted for inpatient treatment and childbirth, who after the examination were divided into 3 groups: 1-group of 18 patients with pre-pregnancy, 2 group - 13 repeat pregnancies second pregnancy, 3-group- 43 repeat pregnancies third and more pregnancies. The age of the examined ranged from 22 to 42 years and averaged 34.19±0.8 years.

All pregnant women underwent ultrasound examinations with dopplerometry of blood flow in the vessels of myomatous nodes.

Results. In 80% of pregnant women, uterine fibroids were detected before pregnancy, in the rest during this pregnancy. On average, the number of pregnancies per 1 woman was 3.8. Previous pregnancies ended with artificial abortions in 46 (21.3%) cases. Spontaneous miscarriages, non-developing pregnancy, ectopic pregnancy and premature birth in the anamnesis were 21 (9,7%), 15 (6,9%), 3 (1,4%) and 8 (3.7%), respectively. Pregnancy in 18.9% of cases was interrupted at terms from 6 to 12 weeks more often in women of the 2nd and 3rd groups. Urgent operative deliveries ended with 55, premature 5 deliveries. All 60 pregnant women were delivered by caesarean section.

Planned operations were performed in 43 (71.7%) cases. Indications for planned operations were the first birth at the age of over 35 years on the background of multiple uterine fibroids, placenta previa, uterine malformations, transverse fetal position, morphofunctional uterine failure thinning of the scar on the uterus, pelvic presentation of the fetus, high-grade myopia. Indications for emergency cesarean section surgery were: placental abruption, clinically narrow pelvis pelvio-cranial disproportion, malnutrition and infection of the myomatous node, indications from the fetus fetal distress. In 6 (10.0%) women, due to a complication that occurred during the operation uterine hypotension, the uterus was amputated without appendages.

Conclusions. Pregnant women with uterine fibroids are more likely to experience the threat of termination of pregnancy, miscarriage, birth abnormalities.

In 72% of cases, delivery of women with uterine fibroids is carried out surgically as planned.

12. Genetics & Genomics

P17 - NOD-like receptors in pathogenesis of early miscarriages

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Context

NOD-like receptors are intracellular signaling receptors, which are capable to recognize ligands of microorganisms (fungi, bacteria, protozoa and viruses) and induce apoptosis and pro-inflammatory cytokines production.

Objective

To determine mRNA expression of NOD-like receptors in decidua of patients with spontaneous abortions and missed abortions compared to ongoing pregnancy.

Methods

mRNA expression of NOD1, NOD2, NLRP1, NLRP3, NLRC4 and pathway protein RIP-2 was measured by reverse transcription quantitative PCR.

Patients

In a study, 34 patients with missed abortions (group I), 34 women with spontaneous abortions (group II) and 57 patients with ongoing pregnancy, admitted for artificial abortion (group III, control group) were recruited in Belgorod Regional clinical hospital of St. Joasaph (Belgorod region, Russia) after obtaining of patient s consent in 6 10 weeks of pregnancy. Exclusion criteria were: endocrine disorders, severe extragenital diseases, antiphospholipid syndrome, inherited thrombophilia, uterine malformations and fetal chromosomal abnormalities.

Interventions

Decidual tissue was received by uterine abrasion.

Main Outcome Measures

In decidual tissue mRNA expression of NOD2 was significantly higher in decidua of patients with spontaneous abortions and missed abortions, and RIP-2 (its pathway protein) in women with missed abortions. No significant differences were found in mRNA expression of NOD1, NLRP1, NLRP3 and NLRC4 in patients with early miscarriages compared to control group.

Results

mRNA expression of NOD2 was significantly higher in decidua of patients with spontaneous abortions and missed abortions, and RIP-2 (its pathway protein) in women with missed abortions. Patients with ongoing pregnancy had moderate positive correlation between gestational age and mRNA expression of NOD2 and RIP-2. Women with missed abortions had moderate negative correlation between body weight and mRNA expression of NOD2 and RIP-2. Patients with spontaneous abortions had moderate negative correlation of RIP-2 mRNA expression with body weight and body mass index, and moderate positive correlation with age of menarche. Expression of NOD1, NLRP1, NLRP3 and NLRC4 mRNA in decidua of patients with missed and spontaneous abortions had no significant differences with progressive pregnancy.
Conclusions. Receptor NOD2 and its pathway protein RIP-2 might be involved in the pathogenesis of early miscarriages.

15. Gyn. Endocrinology

P18 - Patient-reported outcome measures for primary dysmenorrhea: a systematic review of instruments and measurement properties

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Context and Objective:

Primary dysmenorrhea (PDys) has substantial negative impact on physical and mental health, physical activity, school and work productivity, sleep and health-related quality of life. Research on patient-reported outcome measures (PROMs) for PDys is limited, but would support the identification of counselling needs and the evaluation of treatment efficacy. Using the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) methodology, we performed a systematic review of the quality of available PROMs for PDys, and give recommendations for use of the identified instruments in patient care and research.

Methods:

PubMed and Web of Science were searched for studies reporting on the development and/or validation of any PROMs for women with PDys. Applying the COSMIN Risk of Bias Checklist, we assessed the methodological quality of each included study. We further evaluated the quality of measurement properties per PROM and study according to the criteria for good measurement properties, and graded the evidence. Based on the overall evidence, we derived recommendations for the use of the included PROMs.

Results:

Data from seven studies reporting on four PROMs focusing on various outcomes were included. Among those, the Adolescent Dysmenorrhic Self-Care Scale (ADSCS) and the Exercise of Self-Care Agency Scale (ESCAS) aim to measure self-care behavior among adolescent girls with PDys. We further identified the Dysmenorrhea Symptom Interference Scale (DSI) assessing the impact of PDys on daily activities. The Dysmenorrhea Daily Diary (DysDD) is measuring menstrual bleeding, pelvic pain, use of rescue medication, and impact of pelvic pain/cramps on daily life. Our methodological evaluation revealed that the ADSCS and the on-menses version of the DSI can be recommended for use. The DysDD involved intensive efforts in scale development and testing, and showed sufficient content validity, reliability, construct validity and responsiveness, while data on other central measurement properties such as structural validity are still lacking.

Conclusions:

The ADSCS can be recommended for the assessment of self-care behavior in PDys. Regarding measures of impact, the on-menses version of the DSI is a suitable tool. Covering the broadest spectrum of outcomes, the DysDD is promising for use in medical care and research, encouraging further investigations. Further validation studies are indicated for all included PROMs.

16. Gyn. Oncology

P21 - Adult granulosa cell tumour of the ovary: an unexpected diagnosis

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Introduction: Ovarian sex cord-stromal tumours (SCTs) are a group of benign and malignant neoplasms that develop from different types of cells, mostly specialized in the production of steroid hormones; so, these tumours are often functioning and associated with endocrine manifestations. Specifically, granulosa cell tumours comprise 2-5% of all ovarian malignant neoplasms and 90% of malignant SCTs. In contrast to the more common epithelial ovarian malignant neoplasms, most patients with malignant SCTs are diagnosed with early-stage disease. Histology is generally low grade and prognosis is usually good.
Methodology: To present a clinical case of an unexpected diagnosis of an adult granulosa cell tumour of the ovary with review of the literature.

Results:

A 37-year-old woman was admitted to the emergency department with abdominal pain with one day of evolution and progressively worsening, with no other associated complaints. The patient did not have any relevant medical history. From gynaecological and obstetrical history: gravida 4, para 3 (2 vaginal births and 1 caesarean section). As a contraceptive method, the patient used the subcutaneous implant with etonogestrel.
On physical examination, she had pain and tenderness on the right iliac fossa; besides, the uterus was painful on mobilization during vaginal exam. The transvaginal ultrasound demonstrated a 6cm ovarian cyst on the right side (with regular walls and anechoic content) but with decreased doppler flow. The blood work revealed light leucocytosis with no other changes. Faced with a possible diagnosis of adnexal torsion, the patient was then proposed for diagnostic laparoscopy. She was submitted to a diagnostic laparoscopy that had to be converted to laparotomy due to extensive pelvic adhesions the surgery confirmed the adnexal torsion and she underwent right adnexectomy and left salpingectomy given that the patient's family planning project was complete. The anatomopathological examination of the surgical specimen confirmed that it was an adult granulosa cell tumour of the ovary. As the patient didn´t want any more children, she was then submitted to total hysterectomy + contralateral oophorectomy and surgical staging.

Conclusions:

With the presentation of this case, the authors intend to emphasize that even in the face of ultrasound aspects of an adnexal mass suggestive of benignity, we must always bear in mind the possibility that we are facing a borderline or malignant tumor.

16. Gyn. Oncology

P19 - Pregnancy after trachelectomy, about a case

Isabel Gago Gago (ES), Patricia Labrado Luzón (ES), Ainhoa Segura García (ES), Carola Skidelsky Villagra (ES)

CONTEXT:

30-year-old woman with stage IA1 carcinoma of the cervix with gestational desire who underwent vaginal trachelectomy (TR) and pelvic lymphadenectomy with no evidence of residual lesion neither pelvic lymph nodes affected.After IVF she achieved pregnancy with termination by caesarean section at 28 weeks.Clinical follow-up for 23 years free of disease.

OBJECTIVE/METHODS:

retrospective analysis of clinical case in our hospital.
PATIENT:30-year-old woman attended for a check-up.Cytology,colposcopy and cervical biopsy showed CINIII.Conisation was proposed.AP showed an infiltrating squamous cell carcinoma with a depth of 1.4mm anterior margin affected.The patient underwent TR and pelvic lymphadenectomy,AP showed no residual lesion and negative pelvic lymph.After 2 years of negative controls it was decided to attempt gestation.

DISCUSSION:

FERTILITY

Sterility after TR is due to stenosis of cervix,a decrease in cervical mucus or adhesive symptoms.Intraoperative insertion of a permanent cerclage should be attempted during TR.

OBSTETRIC COMPLICATIONS

In first trimester there is higher risk of miscarriages and in second trimester chorioamnionitis,premature rupture of membranes and preterm delivery.Preventive measures are antibiotics,corticosteroids,progesterone or vaginal ring.

FOLLOW-UP

During first 2 years,cytology and HPV is recommended every 6 months for low-risk.3-5 years,6-monthly follow-up and from 5 years onwards,annual check-up.After fulfilment of the genetic wish,it is advised completing surgery by total hysterectomy.

RESULTS:

After 2 years of negative controls an attempt at spontaneous gestation is allowed without success.IVF was indicated.Pregnancy started in week 12 with threatened miscarriage.Therapeutic cerclage couldn't be performed due to the scarce tissue remaining.Pregnancy required relative rest until the onset of labour in week 28.Caesarean section was performed with a live birth of 1200g male;currently with normal development.The patient,now 53 years old,maintains annual follow-up and has not relapsed.

CONCLUSIONS:

TR is a surgical technique used in early stages of cervical cancer in women under 40 years who wish to preserve fertility.The placement of a permanent cerclage intraoperatively is recommended.As preventive measures for complications,follow-up with serial ultrasound scans from early gestation cerclage,antibiotic and corticotherapy are recommended.
The most widespread trend is the completion of treatment with hysterectomy after TR.

16. Gyn. Oncology

P22 - Incidental serous borderline tumour in a histopathologic specimen

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General hospital Slovenj Gradec

Incidental serous borderline tumour in a histopathologic specimen
`avc, Helena; Juvan, Katja; Bravc, Ana.
Context Unexpected findings can be revealed during histopathologic examination of pelvic organs in patients with chronic pelvic pain.
Objective We present a case of unpredicted detection of free floating serous borderline tumour papillae in the lumen of removed, macroscopically normal Fallopian tubes in a patient with chronic pelvic pain.
Methods / Patient /Case report
A 45-year-old patient presented several times to our department complaining of chronic pelvic pain, dyspareunia and postmenstrual bleeding. A large isthmocele was diagnosed and hysteroscopically resected. Consequently, the bleeding stopped but the pain persisted. We recommended diagnostic laparoscopy, but the patient insisted on removing the uterus, therefore we performed laparoscopic hysterectomy with removal of both Fallopian tubes along with peritoneum biopsies from various locations. The ovaries were left in situ according to the patient's age. The histology of the peritoneum revealed endosalpingiosis. In Fallopian tubes lumen the pathologist found free floating serous borderline tumour papillae of unknown origin. The patient was reoperated in a tertiary center. In both of the removed ovaries there were 8 mm large serous borderline tumours. Additional peritoneal biopsies revealed foci of serous borderline tumour as well.
Intervention/Main outcome measure The patient is under close surveillance being diagnosed with FIGO Stage III B ovarian serous borderline tumour.
Results/Conclusions Routine removal of Fallopian tubes during gynaecologic laparoscopic operation seems reasonable for several reasons. In this case an early diagnosis of serous borderline tumour was possible due to the meticulous pathological examination of the removed specimens.

16. Gyn. Oncology

P20 - Late clinical presentation of choriocarcinoma presented as tubal ectopic pregnancy

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Context:

Choriocarcinoma is an invasive type of cancer that rarely can be localised in the fallopian tube. Tubal choriocarcinoma can have atypical manifestations often leading to misdiagnosis and delay in treatment.

Objective:

This case report highlights the importance of ruling out choriocarcinoma in cases of fallopian ectopic pregnancy.

Methods:

We present a case report of gestational metastatic fallopian choriocarcinoma two years following diagnosis of molar pregnancy.
Patient: A 51-year-old patient in her second pregnancy, presented with amenorrhoea and irregular bleeding. The pregnancy test was positive. A transvaginal ultrasound could not identify an intrauterine or extrauterine pregnancy, therefore the case was managed as a pregnancy of unknown location. Serial ²-hCG values were 3013, 3390 and respectively 3570 IU/ml. A multidisciplinary review advised treatment with Methotrexate. The follow-up ²-hCG levels were 3370, 1221, 1041 and 2325 mIU/ml, so a follow scan was organised. She presented with severe pelvic pain before her scan date.
Interventions: On transvaginal ultrasound, a left adnexal mass suggestive of ectopic pregnancy was noted. Intraoperative laparoscopic findings confirmed an oedematous left fallopian tube. Left salpingectomy was performed and an endometrial biopsy was taken. A 48-hour ²-hCG level of 3833 mIU/ml raised suspicion of choriocarcinoma or extrauterine ²-hCG-producing tumour.
Main outcome measures: The case was referred to the Gestational Trophoblastic Disease Centre. The local records revealed that she was a patient 24 months previously but she was lost to follow-up.

Results:

The review of the clinical case, histology results and images led to the diagnosis of choriocarcinoma. She was managed with EMA/CO regime (Etoposide, Methotrexate, Actinomycin D, Cyclophosphamide and Vincristine) which is the most widely used primary combination therapy for high-risk GTN.
This case highlights the importance of ruling out choriocarcinoma in cases of ectopic pregnancy.
Conclusion: Choriocarcinoma is a rare trophoblastic tumour which can present late and rarely can be localised in the fallopian tube. The incidence of tubal choriocarcinoma is about 1.5/1000000. The clinical symptoms of tubal ectopic pregnancy include amenorrhea, vaginal bleeding, pelvic pain, and increased ser ² hCG(2) which often leads to misdiagnosis. Raising awareness on tubal molar pregnancy should be a focus amongst clinicians to prevent misdiagnosis.

17. Gyn. Surgery

P23 - Overview of Postoperative Intraabdominal Adhesions and Their Role on Female Infertility

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Postoperative intraabdominal adhesions can occur after more than 90% of gynecologic surgeries. They not only cause chronic pelvic pain and small bowel obstruction, but are also one of the main reasons for infertility. Adhesions are not only a burden for the affected patients, but are also a burden for the healthcare system, since the treatment of adhesion-associated complications costs a considerable amount of money. The gold standard for the diagnosis of adhesions is by laparoscopy, although other methods, such as transvaginal hydro-laparoscopy, are being discussed as better alternatives. Ideally, adhesions are avoided inherently, by operating carefully and by using microsurgical principles. If this is not possible, gel barriers have been shown to be successful in reducing postoperative adhesions.

18. High Risk Pregnancy

P24 - Assessment of correction effectivenes of psychoemitional state in pregnant women after application of assisted reproductive technologies

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The psychoemotional state of a woman is essential to pregnancy prolongation and the normal delivery course.
To determine the role and effectiveness of the proposed therapeutic and preventive complex in the correction of psychoemotional state in the dynamics of pregnancy in pregnant women after assisted reproductive technologies (ART) application in order to improve the tactics of antenatal observation and prevention of obstetric and perinatal complications.
299 pregnant women were comprehensively examined and a set of therapeutic and preventive measures was carried out: the main group included 249 women whose pregnancy occurred as a result of ART application. The control group consisted of 50 pregnant women with spontaneous pregnancy. Subgroup I pregnant women with tubal-peritoneal type of infertility in anamnesis, subgroup II pregnant women with endocrine type of infertility in anamnesis, subgroup III pregnant women with a history of male infertility. Depending on the therapy that had been prescribed, pregnant women were additionally divided into subgroups A and B. Women from subgroup A received the proposed preventive complex of treatment and psychoemotional correction complex. Women from subgroup B were observed in accordance with generally accepted standards of obstetric care regulated by orders of the Ministry of Health of Ukraine. The complex of measures for pregnant women after ART application included: micronized progesterone, magnesium oxide, folic acid, L-arginine aspartate, Omega-3 polyunsaturated fatty acids and long-term psychological correction before ART program, at 8-10 weeks of pregnancy, at 16-18 weeks of pregnancy and at 28-30 weeks of pregnancy.
Introduction of the proposed complex of psychoemotional correction contributed to the formation of reactive anxiety and personal anxiety levels at a moderate level in women of subgroups IA-44 (89.8%) and 43 (87.6%), IIA 43 (89.6%) and 44 (91.7%) and IIIA 30 (83.3%) and 26 (72.2%), which is considered an adaptive, physiological type during pregnancy. The positive effect of the proposed complex of psychoemotional correction demonstrates the improvement of gestational dominant formation processes, its return to the optimal type in women of subgroup IA 41 (83.6%), IIA 39 (81.3%) and IIIA 26 (72.2%) that is close to the physiological course of pregnancy and contributes to the reduction of perinatal and obstetric complications among pregnant women of these subgroups.

18. High Risk Pregnancy

P25 - Great improvement of obstetrical outcome after prophylactic administration of low dose aspirin in pregnant women with history of severe preeclampsia

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Context:

Hypertensive disorders in pregnancy remain the leading cause of maternal, fetal and neonatal morbidity and mortality worldwide. Their management involves both obstetricians and cardiologists. Prevention of hypertensive disorders during pregnancy with low-dose aspirin was first recommended by the cardiologists in the Clinical Practice Guidelines 2011 of the European Society of Cardiology for pregnant women with a history of early-onset preeclampsia and 2018 for all pregnant women at moderate or high risk of pre-eclampsia. Despite of these, there is a delay in the guidelines of the obstetricians regarding the prophylactic use of low-dose aspirin.

Objective:

To assess the efficiency of prophylactic low-dose aspirin for severe preeclampsia in pregnant women with a history of that hypertensive disorder.

Methods:

We performed a descriptive study on a series of women that developed during their first pregnancy severe preeclampsia with poor obstetric outcome, that were treated at their second pregnancy with aspirin 150 mg/day from the onset of gestation. All patients had singleton pregnancies, and no diabetes, no chronic kidney disease, no autoimmune disease nor antiphospholipid syndrome.

Results:

None of the pregnant women treated preventive with low-dose aspirin until 36 weeks of gestation developed neither early-onset preeclampsia, nor late-onset preeclampsia. Most of them developed gestational uncomplicated hypertension around 37 weeks, antihypertensive treatment was initiated until birth. All patients delivered at term, at 39 weeks in comparison with their first pregnancy that ended preterm (31-35 weeks), either after induced labor or by elective cesarean section. There was no case of severe intrauterine growth restriction and no admission to the neonatal intensive care unit. All mothers and newborns were discharged in 48 -72 hours.

Conclusions:

It is not an overstatement that the obstetric outcome in this group of pregnant women was spectacular improved. Low-dose aspirin proves to be an efficient prophylactic therapy for severe preeclampsia and all obstetricians should be aware of that. Though in spite of all evidence the therapy with low dose aspirin during pregnancy remains an off-label prescription.

18. High Risk Pregnancy

P26 - Massive subchorionic thrombohematoma (Breus´ Mole) - case reports

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CONTEXT

The massive subchorionic thrombohematoma (Breus Mole) is a rare condition with an incidence of 0.03-0.08% consisting of a large clot of maternal blood that separates the chorionic plate from the villous chorion. Its etiology and pathogenesis remain a mystery. The outcomes include restricted fetal growth, oligohydramnios, preeclampsia, preterm birth, and intrauterine fetal demise. In an ultrasound exam, it shows as an intrachorionic mass, different from the regular placental tissue, with placentomegaly.

OBJECTIVE

To report two cases of Breus Mole.

METHODS

Reports produced through a retrospective analysis of medical records.

PATIENTS

Case A: MMH, 32 years old, AB+, G2 C1, GA 24+4. Poorly controlled chronic hypertension. Ultrasound exam: estimated fetal weight of 310 g (percentile 0), fetal biometry 19+6, placentomegaly, early and severe fetal growth restriction, oligohydramnios, and several anemia due to severe placental insufficiency, with suspected Breus Mole.
Case B: JEL, 29 years old, O-, G3/P2, GA 26+5. Patient with acquired thrombophilia using enoxaparin 80 mg daily and AAS 100 mg daily. Bad obstetrical history due to records of neonatal death and intrauterine fetal demise. Thrombocytopenia and long partial thromboplastin time. Ultrasound exam: estimated fetal weight of 700 g (percentile 2), fetal biometry 24+2, maximal vertical pocket 3.2 cm, voluminous and thickened placenta, pathological Doppler velocimetry of the umbilical and uterine arteries, cerebroplacental ratio, and ductus venosus.

INTERVENTIONS

Case A: pressure adjustment, corticosteroid therapy. New ultrasound exam indicated reversed-end diastolic flow and pathological ductus venosus.
Case B: cesarean section indicated. A corticosteroid therapy had been conducted 7 days before.

PRIMARY OUTCOME

Case A: Cesarian section performed without any incidents, placenta previa, with degenerated areas, a large subchorionic hematoma, and velamentous cord insertion. Newborn alive, dying in a few minutes.
Case B: Cesarean section without incidents. An important subchorionic hematoma was found as well as areas with degeneration and fibrosis. Newborn alive with a 7 Apgar score and birth weight of 695 g, referred to the neonatal ICU.

CONCLUSIONS

Because this is a rare event and its pathogenesis is unknown, little can be done in terms of prophylaxis. In order that future results can be different, a more in-depth study needs to be conducted.

18. High Risk Pregnancy

P27 - ketamine bladder syndrome

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We present a favourable outcome of a pregnant woman with underlying Ketamine bladder syndrome (Ketamine induced bladder neuropathy). It is a condition associated with the recreational use of ketamine, a dissociative anaesthetic. This syndrome is characterized by a range of urinary tract symptoms, including urgency, frequency, painful bladder and urinary incontinence. The precise underlying mechanism is currently unknown. Due to limited research on the specific effects of ketamine bladder syndrome during pregnancy, management of this patient throughout her pregnancy was more directed towards symptom control, leading to insertion of long -term catheter in 3rd trimester to prevent urinary retention. The main concern thereafter was recurrent hospital admissions with urinary tract infections, haematuria, pelvic pain requiring parenteral antibiotics and analgesia.

She underwent an uncomplicated elective caesarean section at 37+3 weeks and delivered a healthy female infant. Long term catheter was successfully removed upon achieving adequate urinary output and she was referred for urgent urology appointment postnatally. This case highlighted the importance of comprehensive assessment as a multi-disciplinary team, open communication and timely recognition as delayed diagnosis with such patients may end up in more invasive treatment including radical reconstructive surgery.

Reference:

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2: Chu PS, Ma W, Wong SC, et al. The destruction of the lower urinary tract by ketamine abuse: a new syndrome. BJU Int 2008;102:1616 22.

18. High Risk Pregnancy

P28 - Description of a population of pregnant women with Rh (D) incompatibility from the maternal and child unit

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OBJECTIVE:

to determine the maternal and fetal outcomes in pregnant women with Rh D incompatibility from the maternal and child unit of one of the reference centers in the city of Medellín. Materials and methods: A retrospective cohort study was carried out, which included pregnant women with Rh incompatibility. A non-probabilistic sampling of consecutive cases was carried out. A univariate analysis was performed.

RESULTS:

250 patients were included, in which the median age was 26 years. The O- blood type was the most prevalent in pregnant women with 55.2% and 49.2% of the patients had had between 2 and 3 previous pregnancies, in addition, 88% of the patients had not presented any sensitizing event during her pregnancy. 65.2% had a negative first Coombs result and the mean gestational age of the first Coombs was 28 weeks. 48% of patients received immunoglobulin G anti D at a median gestational age of 28 weeks.

CONCLUSION:

The present study confirms the clinical and sociodemographic data, however it suggests that it may be necessary to strengthen the opportunity in the early recruitment of patients for follow-up with coombs and for the indication of prophylaxis.

19. Hpv

P29 - The clinical course of untreated cervical intraepithelial neoplasia in women aged between 25-35

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Introduction

Cervical intraepithelial neoplasia is a precancerous lesion of the cervix which is at risk of progressing to cervical cancer. Precancerous cervical lesions are classified based on the histological changes they present. In CIN II abnormal histological changes affect 1/3 to 2/3 of the cervical epithelium.

Low grade lesions (CIN I)have slow progression, high grade lesions (CIN II, CIN III) have faster progression to cervical cancer. CIN2 is typically treated. But some studies have suggested that CIN2 lesions often regress completely without treatment and should therefore be simply monitored instead. Treating these lesions can pose a risk to future pregnancies.

Objective

The aim of the study is to study the course of untreated CIN II, for a period of 6 months, in women aged 25-35 years, which constitute the age group with the highest birth rate.

Materials and methods

This study is retrospective and analyzes the progression of CIN II in 70 patients at “Queen Geraldine” University Hospital, which met the following criteria:

a) histological diagnosis with CIN II at the first visit, b) age group 25-35 years at the first visit, c) in which no therapy was applied in the last 6 months from the diagnosis, ç) which had done at least one follow-up visit after diagnosis, d) who were not pregnant at the time of diagnosis, e) for the period 2015-2020

Results

Only 31 women met all the criteria set above.

14 (45%) patients had spontaneous regression,

12 (39%) patients had no changes while 5 (16%) patients progressed to CIN III.

Conclusions

CIN II and III are high-grade lesions but differ from each other in terms of oncogenic potential. Treatment of high-grade lesions is done through excision or destruction of the transformation zone. Treatment for CIN 2 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue.This treatment has a risk of intraoperative hemorrhage and premature birth in future pregnancies ,should therefore evaluate the benefits and risks of treatment.

20. Infertility

P32 - Endometrial expression of fox-proteins (FOXA1, FOXA2) in women with different endometrial thickness

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North-Western State Medical University named after I.I. Mechnikov

Context.

The expression of endometrial proteomic markers in women with the “thin” endometrium is not well understood.

Objective.

To study the endometrial expression of FOX-proteins in women with normal thickness (e7 mm) and «thin» (<7 mm) endometrium.

Methods.

Ultrasonic (M-echo value before ovulation for menstrual cycle duration 28-30 days), immunohistochemical (endometrial expression of FOXA1 and FOXA2) and chemiluminescent (the level of estradiol (E2), progesterone ( ) in the blood) (LH 6-8) analyses were used.

Patients.

There were 3 groups of patients (20-40 y.o.): I main (n=52) with “”thin”” endometrium, II comparison (n=62) with normal endometrial thickness (women of both groups had reproductive dysfunctions of unknown reason)

20. Infertility

P33 - NK and T Cell Subtypes in the Endometrium of Patients with Recurrent Pregnancy Loss and Recurrent Implantation Failure: Implications for Pregnancy Success

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Background:

RPL and RIF are challenges in reproductive medicine. The immune system plays a pivotal role in endometrial receptivity, successful implantation, and pregnancy complications. Immunological changes have been associated with RPL and RIF. Understanding immune dysregulation especially in NK and T cell subtypes may lead to better diagnostic concepts and treatments. From July 2019 to August 2020 patients with RPL and RIF underwent a standardized diagnostic procedure including endometrial biopsies. Immune cell analysis was performed using flow cytometry. Patients were contacted in March 2023 and interviewed concerning their pregnancy outcomes following diagnostics.

Results:

Out of 68 patients undergoing endometrial biopsies, 49 patients were finally included. Live birth rates were high with 72% in RPL and 86% in RIF. Immune cell analysis revealed that patients with RPL had more cytotoxic CD56dimCD16high cells, while RIF patients had more CD56+ uNK cells. RPL patients with pregnancy complications showed increased NKT cell percentages.

Conclusion:

Our findings suggest specific immune changes in RPL and RIF patients, offering potential therapeutic targets. Tailored immunotherapy based on endometrial immunophenotyping might be an option, but further research is needed.

20. Infertility

P30 - Linking the metabolic syndrome-associated COBLL1 to Female infertility

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Context:

Recently, we found that rs6712203, near GRB14/COBLL1 locus, acts as a transcription factor binding site that regulates COBLL1 expression in human adipocytes. COBLL1 is vital for adipogenesis by impacting the actin cytoskeleton. In the absence of COBLL1, preadipocytes lose their ability to become lipid-storing adipocytes (Glunk et al., 2023).
COBLL1 exhibits pleiotropic effects and links to metabolic syndrome, prostate cancer, and chronic myeloid leukemia. Additionally, rs13000026, located in a COBLL1 intron, is associated with endometriosis (p-value: 2.27x10-5) (Mortlock et al., 2022). Interestingly, our mouse model with whole-body COBLL1 knockout exhibited unexplained female infertility, prompting us to investigate COBLL1's role in endometriosis and infertility.

Objective:

Our objective was to examine the involvement of COBLL1 in infertility and endometriosis by utilizing the T-HES cell line and human endometrial stromal cells (hESC) and evaluating their decidualization and inflammation in the absence of this gene.
Method: Endometrial biopsies were from women undergoing in vitro fertilization implantation, all of whom had normal body mass indexes and were aged between 34 and 44. T-HES cells were sourced from ATCC (CRL-4003). We employed siRNA-mediated gene knockdown during the proliferation phase of these cells. Subsequently, cells were induced for decidualization and harvested for mRNA and protein measurements at 3- and 6-days post-induction.

Results:

Significant COBLL1 knockdown in T-HES cells (p-value < 0.001) led to substantial upregulation in IGFBP1 mRNA on day 3 and prolactin on day 6 post-induction (p-values: 0.048 and 0.006 respectively). Additionally, mRNA levels of IL-1ß and IL-8 significantly increased (p-values < 0.001), while IL-6 did not. These findings were replicated in human primary cells at both mRNA and protein levels.
Conclusion: IGFBP1 and prolactin act as decidualization markers. Our data suggests that COBLL1 absence may enhance the decidualization capacity of T-HES and hESC cells. Furthermore, COBLL1 knockdown led to increased inflammatory markers at mRNA and protein levels. Whether prolactin upregulation directly influences interleukin levels remains unclear. Nonetheless, COBLL1 appears to participate in various pathways, potentially contributing to endometriosis and infertility, warranting further investigation.

20. Infertility

P31 - The Use of Polyoxidonium in the Treatment of Infertility in Women Following Endosurgical Management of Polycystic Ovary Syndrome

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Objective:

The aim of this study was to evaluate the effectiveness of the drug Polyoxidonium® in the treatment of infertility in women following endosurgical management of polycystic ovary syndrome.
Materials and

Methods:

A total of 120 women who had undergone laparoscopic surgery for polycystic ovary syndrome were examined. The main group comprised 80 women, and the control group included 40 healthy women. All patients in the main group received Polyoxidonium in the form of intravaginal suppositories at a dose of 6 mg per suppository, once nightly for 6 days, and rectally, one suppository every 2 days for a total of 10 days, starting from the second day after surgery.

Results:

Generally, all women tolerated the Polyoxidonium drug well, and no side effects or disease recurrences were observed in any of them. After the therapy, all 80 patients in the main group had restored ovulatory menstrual cycles. In the main group, 80.6% of patients noted the normalization of their menstrual cycle, and among them, pregnancy occurred in 90% of patients during the first 6 months of follow-up.
Conclusion: The use of the Polyoxidonium® drug in the treatment of infertility in women following endosurgical management of polycystic ovary syndrome improves clinical effectiveness by normalizing the menstrual cycle in 80.6% of patients and achieving pregnancy in 90% of patients during the observation period.

21. Labour & Delivery

P34 - Mechanosensitive TRPV4 channels as potential molecular targets for the regulation of myometrial contractile activity in normal and pathological conditions

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In recent years, global trends in biomedical sciences have been directed towards the study of ion channels of cell membranes in the context of the pathogenesis of various diseases and identified points of therapy. Regulation of the contractility of uterine smooth muscle cells has a clear clinical need, since the percentage of premature births as well as failure of labor activity is still very high (Chawanpaiboon et al., 2019). The aim of this study was to functionally examine the osmo- and mechanosensitive TRPV4 channels in the myometrium.

Methods:

Isometric force recordings were conducted using isolated strips of human and rat pregnant myometrium according to all relevant ethical regulations.

Results:

Selective TRPV4 agonist GSK1016790A (0.3 ¼M) increases the tension of human myometrium strips by more than 3.5 times ($P<0.05$), while the selective blocker of these channels HC067047 (1 ¼M) eliminated this effect. Duration of phasic contractions was reduced after the activation of TRPV4 channels, returning almost to control values after the application of the antagonist. Performance indicator of the muscle, calculated as the area under the curve (AUC), for single contractions was reduced by 17% after the agonist administration ($P<0.05$), but it was increased by 77% from the previous level when TRPV4 was inhibited ($P<0.05$). In rat pregnant myometrium, TRPV4 activation caused a decrease in the contractile amplitude by 26% ($P<0.05$) and the AUC by 22% ($P<0.05$) . The hypotonic environment was taken as a model of pathophysiological conditions with damaged tissue, in particular those that occur in hypertension, diabetes, and preeclampsia. Under such conditions, membranes are stretched and TRPV4 channels are activated (White et al., 2016). Perfusion of the human myometrium with a hypoosmotic solution (220 mOsmol/l) led to a significant decrease in the amplitude of contractions ($P<0.05$). Rat tissue samples showed a decrease in the AUC by 57% ($P<0.05$). Application of HC067047 (1 ¼M) did not restore contractility, as well as the inhibition of BKCa ion channels by paxillin (10 ¼M).

Conclusions:

TRPV4 channels can have a multidirectional effect on myometrial myocytes. Under the hypotonic stress it is to a lesser extent determined by the density of calcium-dependent potassium channels on the membrane, but it may be mediated via other mechano-sensitive ion channels.

The study was supported by the Ministry of Education and Science of Ukraine (projects #--105, #22BF036-01).

21. Labour & Delivery

P35 - Understanding pregnancy, birth, and postpartum experiences among women living in Florence, Italy

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Context:

For women in Italy, pregnancies, birthing experiences, and postpartum life are heavily influenced by cultural, economic, and social norms. The cultural attitude towards pregnancy and birth can significantly impact the experience of pregnant women and their decisions concerning birth plans and execution. Since birth rates in the Italian population have declined over the past decades, it is important to understand the decisions that go into planning and executing this process.

Objective:

The purpose of this study was to understand pregnancy and postpartum experiences, including healthcare decision-making, birth planning and execution, parental leave policies, breastfeeding, and social and cultural influences, among a sample of women living in Florence, Italy.

Methods:

Researchers conducted 24 in-person interviews in English in May 2023. Participants included women living in or near Florence, Italy, aged 18 and over, and who had given birth in Italy. All interviews were transcribed verbatim and analyzed using a thematic analysis approach of coding, pattern review, and mind mapping to identify common themes among participants.

Results:

Positive pregnancy-related experiences resulted from having a comfortable and supportive atmosphere, utilizing natural techniques, and feeling empowered. Negative experiences emerged due to a lack of provider communication and consent, COVID-19 regulations, and a stressful birthing atmosphere. Most participants noted a positive relationship with their body image while pregnant, but faced challenges such as body image dissatisfaction, weight gain, and decreased sense of attractiveness during the postpartum period. Results revealed cultural pressure to breastfeed yet a lack of publicly available private spaces. Lastly, participants desired improved maternity and paternity leave policies, healthcare services, access to publicly funded psychological care, and increased community support.

Conclusions:

This study emphasizes the need for healthcare services to consider cultural influences and prioritize the well-being of women navigating family planning decisions, including those related to pregnancy, birth, and breastfeeding. Understanding and addressing these decisions can contribute to developing more effective strategies and policies to promote reproductive health and address low fertility rates in Italy.

22. Menopause

P36 - Postmenopausal adnexal torsion: an uncommon finding

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Context:

Adnexal torsion is one of the most common surgical emergencies (2.7% of urgent gynecological interventions). It corresponds to a complete or partial torsion of the ligamentar support structures of the ovary together with the fallopian tube which may result in a total or partial obstruction of its blood supply. It can affect women at all ages, although it is more frequent in women at reproductive age. In postmenopausal women, the risk factor that most often predisposes to its occurrence is the existence of a cystic formation/ adnexal mass.

Objective:

Description of a clinical case of adnexal torsion in a postmenopausal woman.

Results:

An 88-year-old woman was brought to the emergency department complaining of abdominal pain that had lasted for one day associated with nausea and vomiting.

Initially the pain was located at the right iliac fossa (RIF), latter spreading to the hypogastrium, with increasing intensity. She had tenderness on palpation of the RIF, with a mass of approximately 10cm being palpated in this area. The patient was initially evaluated by General Surgery, having performed an analytic study and abdominal and pelvic computed tomography (AP-CT). The analytical study showed no anemia and mild leukocytosis. AP-CT revealed the presence of a large cystic formation (12 cm of maximum diameter) apparently dependent on the right adnexal region. After evaluation by Gynecology and stabilization, she was proposed for exploratory laparotomy due to suspected adnexal torsion. Intraoperatively, a double torsion of the right infundibulopelvic ligament was confirmed, observing the right ovary transformed by a cystic formation with a necrotic appearance, having been submitted to a right adnexectomy.

Conclusions:

An adnexal torsion diagnosis can be challenging, especially in postmenopausal women, as symptoms are often nonspecific. Timely action thus becomes important to prevent associated morbidity.

22. Menopause

P38 - Impact of Hormone Replacement Therapy on Quality of Life among Georgian women in postmenopause

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Introduction /Objective:

Postmenopause is associated with somatic, psychological and sexual complaints that can affect quality of life. To assess the impact of Hormone Replacement Therapy (HRT) on the quality of life among Georgian women during the menopausal transition and postmenopause was the purposes of this study

Methods:

This cross-sectional study included 240 Georgian women, aged 45 60 . The required data were gathered using the short-form health survey (SF-36) questionnaire. Sociodemographic characteristics, information regarding menopause and its treatment were collected using a structured, pretested questionnaire.

Results

Research findings showed that the most common symptoms were joint and muscle discomfort, physical and mental exhaustion, and hot flashes. 81 (34%) respondents had some knowledge about menopause symptoms. Only 7 (2.9%) were aware of the longterm consequences of menopause. More than half (68%) of participants perceived menopause as a disease, and 31% considered it a natural transition. Only 6 (2.5%) respondents knew that HRT could relieve menopausal symptoms and prevent long-term health risks ($p<0.0001$). The greatest lack of knowledge was observed among women from less educated and poor socio-economic strata. The severity of menopausal symptoms was highly associated with low scores on all SF-36 scales. Women who received HRT had higher scores on scales such as physical functioning, mental and physical health.

Conclusion:

Lack of awareness about the long-term consequences of menopause determines the low level of HRT use among Georgian women. There is a need to increase their awareness of the benefits of HRT, as the results of this study and those of others indicate that hormone replacement therapy significantly improves quality of life during postmenopause.

22. Menopause

P37 - Safety, pharmacokinetics, and pharmacodynamics of HS-10384, a novel neurokinin-3 receptor inhibitor, in healthy Chinese subjects: a first-in-human phase 1 study

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Context:

Menopausal women commonly experience hot flashes. HS-10384 is a novel, non-hormonal, orally administered, selective neurokinin-3 receptor antagonist which was developed to treat hot flashes via blocking the hyperactivation of kisspeptin/neurokinin B/dynorphin neuroendocrine pathway to normalize the thermoregulatory system. In addition, it also simultaneously modulates hypothalamic-pituitary gonad axis.

Objective:

To evaluate the safety, tolerability, pharmacokinetics (PK) and pharmacodynamic (PD) profiles of oral HS-10384 in healthy adults.

Methods:

A single-center, randomized, double-blind, placebo-controlled single ascending dose study was conducted in healthy Chinese subjects from August 2022 to July 2023. The study consisted of five dose cohorts: 5, 15, 45, 90 and 180 mg.

Patient(s):

Healthy subjects aged 18-60 years were enrolled.

Intervention(s):

Eligible subjects in each cohort were randomly assigned in a 3:1 ratio to receive either HS-10384 or placebo orally.

Main Outcome Measure(s):

Safety and tolerability was evaluated by the frequency and severity of adverse events. PK were described by Cmax, AUC and t1/2. PD were evaluated by circulating levels of LH, FSH, progesterone, testosterone (in males), and E2.

Result(s): A total of 60 healthy Chinese subjects were enrolled in the study (including 4 males and 56 females). Mean (SD) age was 32.7 (6.53). All treatment-emergent adverse events (TEAEs) were mild or moderate. There were no serious adverse events, and no subjects were discontinued from the study due to TEAEs. The most common HS-10384-related TEAEs were menoxenia and red blood cells urine positive. Total plasma exposure to HS-10384 (AUC) increased in an approximately dose-proportional manner at a dose range of 5-180 mg, while Cmax increased in a less than dose-proportional manner with a Cmax-saturation at high dose levels of 90 mg and 180 mg. The mean t1/2 ranged from 18.94 h to 37.84 h. Moreover, a dose-dependent decrease in serum LH but not FSH or E2 was observed after single doses of HS-10384. Compared to placebo, there was a trend that the maximum decrease (ranged from 7% to 40%) in LH from baseline increased with dose escalation in HS-10384 groups.

Conclusions This first-in-human study demonstrates a favorable safety and tolerability in healthy Chinese subjects. The clinical safety, PK and PD profiles warrant further clinical development of HS-10384 in menopausal women with hot flashes.

24. Obstetrics

P40 - The relation between uterine rupture and use of misoprostol for cervical ripening: Preliminary study

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Context:

Exposure to uterotonic drugs is a consistent risk factor for rupture of the uterus and it has occurred in 0.29% of woman who used cervical ripening with misoprostol for labor. Between 2014 and 2022, the total of 140 cases have occurred uterine rupture in Mongolia, which account for about 10% of severe maternal morbidity.

Objective:

To study the relation between uterine rupture and misoprostol use during labor

Methods:

In retrospective study condected in National Center for Maternal and Child Hospital in Mongolia, data from postpartum woman with rupture of uterus who fulfilled the inclusion and exclusion criteria registered at Surveilance Research Department.

Results:

Among the total of 174 woman, 24.7% (n=43) was complicated with rupture of uterus and 75.3% (n=131) were not and the ratio between the two groups was 1:3. 55.8% (n=24) of the uterine rupture group, 58.1% (n=68) of the control group had tertiary education, and there was no statistically significant difference between the 2 study groups ($p < 0.05$). According to body mass index, 60% (n=24) of women with uterine ruptures were overweight, 25% (n=10) had first-degree obesity, while in women without uterine rupture, 43.1% (n=50) were overweight and 34.5% (n=40) had first-degree obesity. Between the two groups there were no statistically significant differences ($p<0.05$). The average gravidity in the case group was 4±1.8 and parity was 3±1.3, while the average gravidity in the control group was 2±1.4 and parity was 1±1.2, which was a statistically significant difference between the two groups ($p < 0.05$). Among the study groups, the mean number of abortion was 2±0.82 in case group and it was 1±0.35 in control group, there was a statistically significant difference between the two groups ($p < 0.05$). Oxytocin augmentation was used 70.0% in the uterine rupture group and 62.0% in the control group. In logistic regression analysis, oxytocin use for labor induction increases the risk of uterine rupture by 1.4 times (B=1.54 95% CI: 0.55-4.52).

Conclusions:

In this study, woman who complicated with rupture of uterus have multiparity, repeated abortion and bad obstetric history compared woman without rupture of uterus. However, misoprostol administration for cervical ripening is not significantly affects to rupture of unscarred uterus. Compared with misoprostol, our analysis shows that administration of oxytocin for labor induction had a higher risk of uterine rupture.

24. Obstetrics

P41 - Prevention of venous congestion of the pelvis in pregnant women to reduce obstetric complications

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During pregnancy, varicose veins (VD) spread to the vessels of the pelvis, external genitalia, and hemorrhoidal veins. This leads to the development of pain, numbness, the development of endothelial dysfunction and placental insufficiency, fetal malnutrition, and obstetric hemorrhage.
The purpose of the study is to propose methods for the prevention and treatment of pregnancy complications. Complaints, reproductive history were studied, an ultrasound examination of the fetoplacental complex, and a blood coagulogram were performed. We examined 128 pregnant women with VHD: group 1 - 76 pregnant women with varicose veins of the lower extremities (LVL), group 2 - 18 pregnant women with varicose veins of the small pelvis (PVV), group 3 - 34 pregnant women with varicose hemorrhoidal veins (VRGV). The control group consisted of 16 healthy women. The age of the subjects ranged from 18 to 40 years, median 32.7±5.6 years. In the reproductive history of those examined, frequent births were in first place, followed by reproductive ones. VD and VGV most often manifested themselves in the 2nd and 3rd trimesters of pregnancy, which is associated with the growth of the pregnant uterus and compression of the pelvic veins. ARVMT was detected on a Dopplerogram, which was characterized by the identification of varicose veins of different colors, the so-called lake symptom. Ultrasound with Doppler blood flow of the pelvic veins was used to diagnose VB. URVMT was observed in 100% of pregnant women with dilated hemorrhoidal veins. A study of the blood coagulation system revealed an increase in fibrinogen by 15-23%, PTI by 6-12%, and an increase in D-dimer by 20%. Depending on the treatment, pregnant women were divided into 2 groups. In the main group, a drug containing Diosmin was prescribed, 1 tablet per day for 30-60 days. In the comparison group - ascorutin 1 tablet 3 times a day for 30 days and local phlebotonics. After treatment, women noted a decrease in pain. Improved blood flow in the vessels compared to data before treatment in pregnant women receiving the drug with Diosmin, compared with those receiving ascorutin. Fibrinogen levels decreased by 1.7 times. PTI decreased significantly and was within 98.2±2.2 ($p<0.001$). Conclusions. To diagnose URVMT, Doppler ultrasound is performed in the second and third trimesters of pregnancy. Prescribing a drug with Diosmin to pregnant women with VD leads to a venotonic effect, restoration of hemostasis and reduces the incidence of obstetric pathology.

24. Obstetrics

P42 - Impedance spectroscopy for the diagnosis of obstetric anal sphincter injuries: the pilot experience

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Context. Obstetric anal sphincter injuries (OASIs) represent a still frequent event during vaginal delivery. Every fourth woman giving vaginal delivery suffers from some level of sphincter damage, being then at 50-60% risk of developing fecal incontinence either immediately following delivery or later in her life. Still currently, early diagnosis of OASIs is based solely on physical examination of the perianal area performed by midwives or obstetricians immediately after delivery, with detection rates depending on their experience and skills.
Objective. This analysis aims at evaluating the clinical performance and safety in detecting OASIs in women following vaginal delivery based on pooled data from two prospective pilot clinical studies (NCT03769792 and NCT04181840) of a machine-learning-assisted ONIRY device prototype comprising impedance spectroscopy and the endoanal probe.
Methods. Participants from 0 to 16 weeks after the vaginal delivery underwent ONIRY test along with reference diagnostics methods.
Patients. Sixty nine women were enrolled, mean age 30.8 ð± 3.8 years, 48 (69.6%) primiparous.
Interventions. ONIRY measurement, three-dimensional endoanal ultrasound (EUS), high-resolution anorectal manometry, physical rectal examination.
Main outcome measure. The diagnostics result of the ONIRY versus EUS assessed in the OASIS classification.
Results. The accuracy, sensitivity, and specificity of the ONIRY test compared to EUS were 89.2%, 86.4%, and 90.2%, respectively. The same performance metrics equaled 90.6%, 95.6%, and 86.5%, respectively, compared to anorectal manometry. Those were 88.1%, 85.7%, and 89.0%, respectively, when compared to physical examination. No adverse device effects were reported in either study.
Conclusions. The impedance spectroscopy with the ONIRY appears to be safe; its clinical performance demonstrated in pilot clinical studies warrants further development as a quick diagnostic method for detecting OASIs.

Keywords
obstetric anal sphincter injuries (OASIs), anal sphincter, perineal tear, fecal incontinence, diagnostics/diagnosis, impedance spectroscopy, machine learning
Funding information
The studies related to the project, currently ongoing, are co-financed by the European Union as part of the BRIdge Alfa program, conducted in Poland by the National Centre for Research and Development (POIR.01.03.01-00-0004/16).

24. Obstetrics

P39 - A rare case of a complete hydatidiform mole in a 16-year-old teenager

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Context:

A complete hydatidiform mole is the most frequent benign form of a trophoblastic gestational disease, as well as a very uncommon pathology affecting around 60 in 100.000-120.000 pregnancies in Europe and North America. It defines the fertilization of an empty egg, without any maternal DNA, by a sperm. Without an embryo to grow inside the uterus, the gestational tissue can evolve uncontrollably and form a gestational trophoblastic neoplasia.

Objective:

To establish the challenges and the versatile character of trophoblastic gestational diseases (TGD) which medical practitioners encounter while treating young patients in early stages of a pregnancy.

Methods:

A qualitative analysis of a recent case at the Elena Doamna Hospital in Iasi, based on theoretical aspects of several matching articles regarding the described pathology, as well as practical medical experience.
Patient:
A 16-year-old female patient, sexually active, without any medical history comes for an emergency consult complaining on the presence of abnormal vaginal bleeding. The ultrasound shows an enlarged uterus with 9.60/7.63 cm and a 3.63/1.95 cm tissue mass, the biochemistry points out a level of 555 mUI/mL of beta-hCG, but no embryonic structures.
Intervention:
The immediate medical approach was a dilation and curettage (D&C) with a post- intervention treatment with Logest and a progressive follow-up in the next weeks.

Main Outcome Measure(s):

hCG levels after 3 to 4 weeks, uterus ultrasound aspect and measures, bleeding.

Results:

After three days, the uterus presents itself normal, without abnormal bleeding, but hCG levels are still progressively high (3000 mUI/mL-3 days/7900 mUI/mL-1 week/259 mUI/mL-2 weeks), which is an indicator of trophoblastic gestational neoplasia, classified as stage I:6 according to FIGO/WHO scoring system, indicating chemotherapy with Methotrexate 50 mg/m2/week, Methotrexate 250 mg, Actinomycin-D 1,25 mg/m2.

Conclusions:

A complete hydatidiform mole is a gestational trophoblastic disease which originates from placental tissue and can evolve into malignancy. It is diagnosed through ultrasound and levels of rising hCG even after intervention, pointing out a trophoblastic gestational neoplasia. Once established the diagnosis treatment and periodic follow-ups must be initiated.

24. Obstetrics

P43 - Receptor operated cation channels - the sweet spot for myometrium pharmacology?

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Objective:

the preterm as well as dysfunctional labor and the postpartum hemorrhages are still happening on a global scale. This calls for examination of new small molecules to affect ion channels - the end point in complex receptor-operated intracellular pathways. TRPC4 channels, which are activated in synergy by Gq/11- and Gi/o-coupled receptors, have been investigated in some visceral smooth muscles, but their role in the myometrium remains largely elusive.

Methods:

isometric recording of human and rat myometrium strips contractility or intraluminal pressure recordings in the fragments of uterine horns were used to examine the effects of the selective TRPC4 agonist (-)-englerin A (EnA) and its novel selective and potent antagonist Pico145 on spontaneous and stimulated contractions at different functional states of the myometrium.

Results:

EnA (30nM) stimulates uterine contraction in isolated myometrium samples from dysfunctional labor patients. Under the moderate mechanical stretch (10% from the initial strip length) examined on the rat isolated uterine strips the EnA stimulative effect remained unchanged. In pregnant rat (20-21 days of gestation) myometrium isolated strips examined in organ bath the inhibition of TRPC4 completely abolished the response to carbachol (50 uM) consistently with the critical contribution of TRPC4 to cholinergic excitation in other visceral smooth muscles (Zholos 2006). Under hypotonic stress (220 mOsmol/l), Pico145 did not demonstrate any significant effect either on the amplitude of the phasic contractions or area under the curve (AUC). When applied after oxytocin (10 nM), the antagonist at 0.1nM tended to increase the integral contractile force. In the isolated fragments of uterine horn taken from nonpregnant rats with the acute kidney disease the application of 10 nM of Pico145 resulted in 25% decrease of the amplitude of contraction (P=0.007) and 36% decline in the integral force of contraction (P=0.04) compared to the oxytocin response.

Conclusions:

TRPC4 receptor-operated ion channels possibly participate in the regulation of myometrium contractility at different physiological states. Their pharmacological modulation with novel small molecules demonstrates the variability of tissue response determined by the dose applied and the method used for functional studies. The study was supported by the Ministry of Education and Science of Ukraine (projects #--105, #22BF036-01).

24. Obstetrics

P44 - ssessment of indications and complications of caesarean section

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Context:

In the world, 2 out of 5 babies in the world are born by cesarean section. In our country, in the first quarter of 2022, 1 out of every 3 births was born by cesarean section (27.7%).

Objective:

We aimed to study the indications for surgery and the effects on maternal and children of delivered by planned and emergency cesarean section at the NCMCH.

Methods:

The study was conducted in a retrospective design based on the NCMCH. The study included mothers who delivered by cesarean section in 2021-2022 at the NCMCH. Study data were collected from the medical history through a questionnaire. Statistical analysis was performed using IBM SPSS 26.0 software. Factors affecting the decision of cesarean delivery and the risk of surgical complications were assessed by logistic regression analysis.

Results:

The study included 1696 cesarean section women aged 17-49 years. Of the participants, 48.6% had an emergency cesarean section. In 40.4% of all cases, repeat cesarean, in 7.3% of cases, large fetuses, and in 11.6% of cases, fetal obstruction was the indication for surgery. Out of emergency cesarean, 70% were repeated cesarean delivery, 22.8% of fetal malformations, and 10.9% of birth defects are higher than planned cesarean section. The incidence of planned cesarean section is 1.7 times higher in cardiovascular disease women. Mothers who were monitored at 27 weeks' gestation or later were 4.4 times more likely to have an emergency cesarean delivery. Pre-eclampsia increased the risk of emergency caesarean section by 69% (OR: 1.68; 95% CI: 1.3-2.2; p=0.000). The risk of bleeding is 2.2 times higher in emergency cesarean section compared to planned cesarean section. 12.7% of infants born by emergency cesarean required intensive care, which was higher than those born by elective cesarean section.

Conclusion: When cesarean delivery is decided, repeated cesarean section, large fetus, and fetal development are common indications. In maternal diseases of the cardiovascular and digestive systems, there are planned c-sections. On the other hand, there is a high risk of emergency cesarean delivery for maternal who have been diagnosed late for prenatal care and have been diagnosed with primary eclampsia or convulsions. Complications of planned and emergency cesarean section are different. Bleeding during emergency cesarean section and sepsis were more common in maternal who were delivered by planned cesarean section.

24. Obstetrics

P43b - Evaluation of the quality of antenatal care in Mongolia: Pilot study

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NCMCH

Context:

The quality of antenatal care is a major factor influencing maternal mortality. Therefore, maternal mortality can be reduced by 63.2%, if antenatal care is provided by well-trained health workers.

Objective:

To evaluate the quality and implementation of the standart of antenatal care in nationwide and determining the future demands.

Methods:

Study was conducted in cross-sectional design of analytical study and qualitative study. Data was collected from a total of 22 National Health Centers, including the National Center for Maternal and Child Hospital, Maternal and Neonatal Center II, maternity hospitals, general hospitals, regional diagnostic and treatment centers and family health centers.

Results:

In this study, a total of 510 woman and 93 doctors and medical specialists have participated. 94.3% of doctors and medical specialists responded that they provide appropriate medical care services in accordance with the regulation approved by the order No. A/318. However, 57.6% of the mothers responded that they received antenatal care for 6 times or less. During the antenatal care, 43.5% of woman was not received advise about intake of folic acid, 44.7% were not received advise about iron supplements, 37.1% were not received advise about warning signs of pregnancy and 44.7% were did not received information about benefits of antenatal care. In this study, the number of antenatal visits are statistically related to if they received antenatal consult from doctor (p=0.0001). The quality of antenatal care of woman with co-morbidities and risk factors of socio-economic status and other biological factors did not differentiating between primary and general hospitals (p=0.257).

Conclusions:

This study shows that doctors and medical specialists are provide adequate antenatal care regulation approved by the order No. A/318. However, the number of antenatal visits and antenatal consultations are insufficient and lack of quality.

24. Obstetrics

P45 - Investigating the risk factors for severe maternal morbidity from direct obstetric cause in Mongolia

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Context:

In worldwide, the prevalence of severe maternal morbidity ranges from 1 to 82 per 1000 live births, while in Mongolia, it is 22 per 1000 live births as of 2021.

Objective:

To identify main causes and associated risk factors of severe maternal morbidity from direct obstetric cause in tertiary hospital of Mongolia.

Methods:

In retrospective study conducted in National Center for Maternal and Child Hospital in Mongolia, data from postpartum woman with severe maternal morbidity (SMM) who fulfilled the inclusion and exclusion criteria.

Results:

Among the total of 196 woman, 65 have complicated with severe maternal morbidity and 131 were not (1:2). The average gravidity in the case group was 4 and parity was 2, while the average gravidity in the control group was 2 and parity was 1, which was a statistically significant difference between the two groups ($p < 0.05$). In terms of reproductive parameters, 64.6% (n=42) of abortions were performed in the case group and 88.9% (n=112) of the control group, which is a statistically significant difference between the two groups ($p < 0.05$). Our analysis shows that poor education level of woman has increases the risk of severe maternal morbidity from direct obstetric cause by 1.7 times (OR=1.7). In terms of comorbidity during this pregnancy, 34.9% (n=15) of the case group had renal and urinary tract disorders, 18.6% (n=8) had upper respiratory tract disorders, and 7% (n=3) had cardiovascular disorders. In the control group, 50.6% (n=24) had upper respiratory tract disorders, 16.7% (n=8) had urinary tract disorders, and 12.5% (n=6) had cardiovascular disorders. There were statistically significant differences between the two study groups ($p < 0.05$). According to pathological analysis, 44.6% of the severe maternal morbidity from direct obstetric cause were placenta previa, 19.1% were placenta accreta, 31.9% were placenta increta, 8.5% were endometritis, and 6% were uterine rupture.

Conclusions:

In this study, the education level of woman, obstetric history and comorbidity are the major factors that increases risk of severe maternal morbidity from direct obstetric cause, so we believe that the risk of SMM can be reduced by improving high-risk prenatal care. Also, placenta previa and placenta increta are the leading causes of SMM, so it is important to improve the potential of antenatal diagnosis to reduce the risk of SMM and to make an optimal birth plan.

24. Obstetrics

P46 - Identifying the causes and risk factors of maternal hospital readmission in Mongolia

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NCMCH

Context:

Maternal readmission rate is about 1-2.16% among in total births. The risk factor of maternal readmission is associated with maternal comorbidity (hypertensive disorders, diabetes and allergies etc.), infection and mode of delivery.

Objective:

To evaluate causes and risk factors of readmission and relation between mode of delivery and cause of readmission.

Methods:

In this retrospective study, we collected data from medical record of National Center for Maternal and Child Hospital in Mongolia between January and May of 2022 and 2023.

Results:

Of the 178 mothers in the study, 55.6% (n=99) had normal vaginal delivery and 44.4% (n=79) had caesarean section. In this study, the average postpartum day of readmission in hospital was 17th day of postpartum period. According to the causes of postpartum readmission, 54.4% (n=97) were endometritis, 3.9% (n=7) were perineal wound dehiscence, 10.6% (n=19) were post-caesarean wound infections, 9.5% (n=17) had mastitis, 1.1% (n=2) had late postpartum hemorrhage, and 1.6% (n=3) were retained placenta. 41% (n=40) of 97 mothers admitted with endometritis had fever, 7.2% (n=7) had lower abdominal pain, 11.2% (n=20) had remaining debris in the uterine cavity, and 1% were sepsis. Furthermore, 31.1% (n=31) of the 99 mothers who gave birth by normal vaginal delivery had perineal laceration, and 19.1% (n=19) had episiotomy. According to the management, 25% (n=5) of 20 woman had dilation and curettage procedure who has diagnosed postpartum endometritis and remaining debris, while 75% (n=15) were hospital discharge after using combined drug and physical therapy. Average hospital stay of readmission mothers were 5.1 days and there was no statistically significant difference or weak correlation between mode of delivery and postpartum readmission (p=0.66, r=0.03).

Conclusions:

In this study, the most common reasons for readmission are endometritis, remaining debris in the uterine cavity, infection of perineal wound and anterior abdominal wall wound and mastitis. Comorbidities during pregnancy, caesarean section, perineal laceration, and episiotomy are the main factors that cause readmission in postpartum period. There is no significant difference or weak correlation between mode of delivery and length hospital stay.

27. Polycystic Ovary

P47 - Myo-inositol (MYO), carnitines (Acetyl-L-Carnitine And L-Carnitine), N-acetylcysteine(NAC) and L-Arginine (L-ARG) administration to Overweight/obese PCOS Patients improves reproductive and metabolic parameters.

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Context

PCOS is a very frequent reproductive disease characterised not only by at least 2 out of 3 criteria among androgen excess, ovulatory dysfunction and polycystic ovarian morphology but also by a frequent occurrence of insulin resistance (IR).
Objective
This study aims to evaluate the clinical effects of the administration of a combination of MYO inositol+Carnitines+N-Acetyl cysteine+L-Arginine in PCOS obese/overweight women.

Methods

Patients recruited (n=19) had no hormonal treatment in the previous 6 months and none of them were taking steroids or other metabolic active medications in the 3 months prior to the evaluation. No lifestyle or dietary changes were required in enrolled patients. Patients were evaluated before and after 12 weeks of treatment with MYO (1000 mg), L-Carnitine (860 mg), Acetyl-L-Carnitine (250 mg), NAC (100 mg), L-ARG (500 mg) for hormonal and metabolic profiles and HOMA-IR index. An oral glucose tolerance test (OGTT) was performed, measuring insulin, C-peptide and glucose plasma concentrations. A hyperinsulinemic response was considered when plasma insulin levels are above 50 mcU/ml within 90 minutes from the glucose load. Hepatic Insulin Extraction (HIE) index (insulin/C-peptide ratio) was used to assess liver functionality.

Results

After 12 weeks treatment all patients showed the significant reduction of HOMA index, Insulin, total cholesterol, LH and FSH plasma levels. Considering the OGTT, the treatment reduced both insulin and glucose levels, while significant changes in C-peptide were only observed at 60 minutes after glucose administration. HIE (Hepatic Insilin Extraction) index greatly improved.

Conclusions

In conclusion our data support the positive effects of this integration on both reproductive and metabolic parameters in PCOS. In addition, HIE index evaluation demonstrated that this treatment induced also the recovery of liver ability to degrade insulin reducing the risk of IR and of NAFLD progression.

27. Polycystic Ovary

P48 - Relative importance of AMH with aging among women with polycystic ovary syndrome

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Context:

Many studies have investigated whether serum anti-Müllerian hormone (AMH) might be associated with various manifestations of polycystic ovary syndrome (PCOS) such as hyperandrogenism, insulin resistance, and metabolic disturbance or predictive roles of various treatments.

Objective:

To investigate AMH distributions according to age groups in women with PCOS and determinants of serum AMH levels in PCOS patients.

Methods:

This is a Retrospective cohort study in a single reproductive endocrinology center
Patients: Women diagnosed with PCOS (n = 537) according to the 2003 Rotterdam criteria.
Intervention: None
Main Outcome Measures: Serum AMH level and phenotypic profiles

Results:

We compared mean AMH levels according to age groups: < 20 years (n = 141), 20-29.9 years (n = 277), 30-34.9 years (n = 84), and 35.0-42.2 years (n = 28). Mean AMH levels for the four age groups were 9.11 (95% CI: 8.15, 10.19) ng/ml, 10.49 (95% CI: 9.76, 11.27) ng/ml, 9.36 (95% CI: 8.24, 10.63) ng/ml, and 11.1 (95% CI: 8.75, 13.45) ng/ml, respectively, showing no significant differences among age groups. We also found that elevated AMH levels maintained until late reproductive age in a scatter plot. In women with PCOS, serum AMH levels showed no correlation with age, although they were independently related to mean antral follicle count (AFC) (^{2} coefficient = 0.497, P < 0.001), total testosterone (^{2} coefficient = 0.133, P = 0.039), and serum LH concentration (^{2} coefficient = 0.127, P = 0.048). Nearly all (523/535) women with PCOS had polycystic ovary morphology, thus, we divided subjects according to the presence of hyperandrogenism. Approximately 70.0% (375/537) of women with PCOS had clinical or biochemical hyperandrogenism, and these women showed significantly higher serum AMH levels than those without hyperandrogenism. Hyperandrogenic patients also showed more AFC and higher ovarian volume than those without.
Conclusion: We could not find age-dependency of AMH among women with PCOS. There was no significant difference in AMH level between young and aged women with PCOS. Sustainedly high AMH levels even in late reproductive aged women with PCOS might paradoxically suggest relative importance of AMH in aging of women with PCOS. AFC, serum androgen, and LH levels, but not age, were determining factors for serum AMH levels in women with PCOS, suggesting AMH levels might reflect interactions between LH, androgens, and disorders of follicular maturation.

28. Prenatal Diagnosis

P49 - The association between maternal obesity and risk of Down syndrome in offspring

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Context:

In the worldwide, 5-7% of congenital malformations occur annually of which 303,000 newborns died in the first week. About 90% of newborns have chromosomal abnormalities and in Mongolia 1310 deaths of children under the age 5 has been reported and out of these number 1037 cases were infant deaths which has chromosomal abnormalities that accounted for 10.5%.

Objective:

To study association between maternal obesity and risk of Down syndrome in offspring assessed by first trimester combined test.

Methods:

The study was conducted in prospective study design between 2017 and 2020 in private hospital of Mongolia. Total of 686 pregnant women with one fetus who received combined screening test for chromosomal abnormalities and CRL of 45-84 mm included in this study.

Results:

Total of 21.9% of pregnant woman have high risk of Down syndrome assessed by first trimester combined test. In this study, 32.9% of woman were overweight and 13.1% were obese, maternal body mass index and risk of Down syndrome were strong positive correlation ($r=0.7$; $p=0.001$). Linear regression analysis according that when the body mass index of the mother increases by 1 kg/m2, the risk of chromosomal abnormalities of fetus will increase by 6 per 10000 cases. Furthermore, the mother s age increases by 1 , the risk of chromosomal abnormalities in the fetus is increased by 9 per 10000 cases.

Conclusions:

Obese woman had a increased risk for Down syndrome births.

28. Prenatal Diagnosis

P50 - Prenatal diagnosis and detecting mutations of NEK I gene in fetus with short rib-polydactyly syndrom type II (Majewski)

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Objective:

To present perinatal findings and identification the mutation in the NEK I gene in fetus with SRPS-Majewski.

Methods:

The regular ultrasound scanning, molecular cytogenetic analysis of fetal egzoma, NIPT test, X-ray of fetus post abortion
Patient: A 31 year old woman, with previous history of one spontaneous abortion in 6th week and one indicated termination of pregnancy due to the fetal SRPS type II two years ago, was sent for prenatal diagnosis to our hospital at 18 week with completely identical ultrasound findings of male fetus as the one two years ago. The ultrasound screening showed narrow thorax with short ribs, short limbs, postaxial polydactyly with syndactyly on upper and lower extremities, facial dismorphysmus with micrognatia, cheilognatopalathoshishis, polycystic kidney.
Intervention: The pregnancy was terminated and male fetus was delivered. Pathohystological analysis confirmed ultrasounds findings and as an additional finding was SUA in umbilical cord.
Outcome measure: NIPT was negative, karyotype 46 XY. The phenotype and radiological manifestations were consistent with SRPS type II(Majewski)

Results:

Molecular analysis of fetal tissue showed a set of compound heterozygous mutations in the NEK I gene (c.3023C>G;p.Ser 1008 classified like pathogenetic variant and c.2259_2260delTT;pSer754llefs2 classified like probably pathogenic. It is expected that if they are in the compound heterozygous state they are the cause of the clinical features of the fetus.
Conclusion: Our case report confirmed the US findings that can be detected with SRPS type II, and also expand the spectrum of mutations of the NEK I gene correlation with SRPS typ II-Majewski.

32. Other

P51 - You re just fat A 36 cm Cyst Causing an Ovarian Torsion in a Woman of Reproductive Age: A Case Report

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Background

Ovarian cysts are a common benign manifestation in premenopausal women. Most ovarian cysts are small and resolve spontaneously. However, ovarian torsions are a gynecological emergency.

Case presentation

The patient presented with a rare case of a large 36 cm craniocaudal left ovarian cyst that caused an acute ovarian torsion. It is important to efficiently consider the differentials of acute abdomen in women of reproductive age, obtain the accurate imaging before surgery, and then consider the surgical techniques that are most effective at preventing complications, physically and psychologically in the patient. Early recognition of the illness and effective management can help prevent lasting consequences to the patient, such as the loss of fertility, complications from exploratory laparotomy, or even death.

Conclusions

The most vital aspect is the third-presentation rule that this paper suggests: medical providers should yellow-flag any patients with recurring (and even benign) presentations that the patient finds concerning. After three subsequent presentations further investigation is warranted to safeguard against errors of omission.

32. Vulva And Vagina

P52 - Menarche through Menopause: Understanding Menstruation Experiences in Florence, Italy

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Context:

Menstruation is a biological phenomenon experienced by many people worldwide. Despite the commonality of this experience, little is known about the cultural, social, political, and familial factors affecting Italian women s menstrual experiences, including education, product access, body image, and more. Widespread negative attitudes towards menstruation pose a need for community and educational improvements as the average age of menarche in Italy and Europe is decreasing.

Objective:

This study aimed to understand how menarche and menstruation impact the multidimensional aspects of women s lives, including how they feel about their bodies. A secondary purpose was to understand menstruation education, policies, and the impacts of COVID-19.

Methods:

Researchers conducted 28 in-depth, semi-structured interviews (May June 2022) with English-speaking women aged 25 60 living in or near Florence, Italy, who had experienced menstruation and for some menopause. Interviews were audio-recorded and transcribed verbatim with observer comments. HyperRESEARCH aided in data organization and analysis. Qualitative content and thematic analysis techniques were used to contextualize data and identify emerging themes.

Results:

External and internal influences such as family members, friends, and psychological/physical changes left women with negative feelings surrounding themselves and their bodies during menstruation. Participants revealed cultural and social factors as additional influences on behaviors and attitudes towards menstruation and self-image. A negative view of their genitals changed hygiene and pubic hair removal practices during menstruation. Participants discussed below-satisfactory educational journeys, wide ranges of educators, and difficulties accessing products. However, enthusiasm toward menstrual leave policies following the COVID-19 pandemic was noted.

Conclusions:

Findings highlight menstruation’s impacts on overall health and well-being, including behaviors and feelings. Information from this study can provide insight into helpful ways to holistically discuss menstruation to improve menses experiences among women living in Italy. Revamped menstruation education and policies can enhance menstrual health worldwide and deserve consideration.

33. Covid 19

P53 - Prevalence of gynecological and sexuality-related symptoms in women between menacme and menopause who tested positive for COVID-19

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Context:

Women are more affected than men by COVID-19, both in terms of reported symptoms and performance in the job market.

Objective:

To evaluate the prevalence of gynecological symptoms and symptoms related to sexual response in menacme and postmenopausal women who tested positive for COVID-19. Method: Cross-sectional study using a quantitative approach and a convenience sample, with women aged 18 and over who have already had COVID-19. Data was collected online using Google Forms. After agreeing to the free and informed consent form (ICF), the women were directed to the questionnaire that consisted of three parts: the first, dealing with sociodemographic data; the second, evaluating gynecological symptoms; and the third, symptoms related to sexuality.

Results:

The sociodemographic results revealed the predominance in the sample (n = 28) of age group 21-29 years old, self-declared white, married, without children/two children, living with husband and children, working hours and family income of 10-20 Brazilian minimum wages (current Brazilian minimum wage is R$ 1.320,00 approximately US$ 271,00). Considering the gynecological symptoms, there were no relevant changes in the menstrual cycle. Premenstrual symptoms (dysmenorrhea, headache, edema, and irritability) were the most common among the majority of the women (N=11 - 39%). When evaluating sexuality, there was an emphasis on a decrease in sexual desire/interest (N=16 - 58%), but women were satisfied with sexual arousal (N=18 - 65%), presenting lasting vaginal lubrication during sexual intercourse (N =13 - 47%), recurrent orgasm (N=18 - 63%) and sexually satisfied with their partner (N=16 - 57%). A limitation of this study was the difficulty for guests to respond to the online questionnaire, probably due to a possible saturation of this research tool during the pandemic period. Conclusion: Reduced sexual interest highlights a possible correlation between COVID-19 and impaired sexual desire in menopausal and postmenopausal women. In order to evaluate this cause-effect relationship, it is necessary to design another study with an appropriate methodology.

Keywords: COVID-19; symptom assessment; women’s health; gynecology; sexuality.

33. Covid 19

P54 - Safety and effectiveness of COVID-19 vaccine among pregnant woman in Mongolia: Observational prospective study

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Context:

Since 2021, Major International Organizations such as the World Health Organization (WHO), Centers for Disease and Prevention (CDC), Americal College of Obstetrics and Gynecology (ACOG) recommend that use of COVID-19 vaccine for people who are pregnant, breastfeeding and trying to get pregnant. But there are limited data regarding COVID-19 vaccine during pregnancy.

Objective:

We aimed to assess the safety and effectiveness of COVID-19 vaccine among pregnant woman in Mongolia.

Methods:

In this observational prospective study, we collected data from pregnant woman who are receiving their antenatal care at the general hospitals of 3 districts of Ulaanbaatar city and National Center for Maternal and Child Health of Mongolia.

Results:

Among the total of 420 pregnant woman, 193 (46.0%) have received COVID-19 vaccine and 227 (54.0%) were not (1:1). The most commonly reported adverse events in pregnant participants were injection site pain (63.2%), myalgia (45.2%), headache (44.9%) and fatigue (40%). Furthermore, complications of pregnancy were 11.5% of vaccinated group and 7.8% of the other group and it has shown that pregnancy complications was not statistically significant in
differentiating to the study groups ($x^2 = 1.62$, $p = 0.205$).The 14% (n=53) of the participants were diagnosed by COVID-19 infection during their pregnancy. Whether to relate between COVID-19 vaccination and COVID-19 infections were statistically significant in differentiating to the study groups. Our analysis shows that risk of COVID-19 infections rised by 1.9 (OR = 1.91, 95.0% CI: 1 3.6, $p = 0.05$) times in unvaccinated group compared with pregnant woman who received COVID-19 vaccine. According to the result, COVID-19 vaccine has an effectiveness of 91% for the pregnant woman if they continue to administer the prevention method of COVID-19 infections (same as before the vaccination: wearing a mask, keep a safe distance).

Conclusions:

In this study, COVID-19 vaccines have became a crucial tools for reducing the incidence of COVID-19 infection in pregnancy. Also COVID-19 vaccine does not increase a risk of pregnancy complications.

33. Covid 19

P55 - The effect of COVID-19 infection suffered during pregnancy on hemostasiogram indicators.

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Relevance. SARS-CoV-2 infection during pregnancy can be an additional trigger for severe thrombotic complications. There are isolated reports regarding the hemostasiological and proinflammatory status in pregnant women with COVID-19, the effect of coronavirus infection on perinatal coagulation parameters has not been studied.
The purpose of the study: to study the hemostasiogram indicators of women with COVID-19 infection during pregnancy and a history of non-developing pregnancy.
Materials and methods: 104 women who applied for a history of undeveloped pregnancy were examined. The average age of the examined was 26±0.8. All patients underwent laboratory and instrumental examination methods, which included: GBA, GUA, BCT, coagulogram, analysis for TORCH infections, hemostasiogram, hormonal background (TSH, Anti - TPO, T4 free, testosterone), homocysteine, CRP, consultation hematologist and nephrologist. Women were divided into 2 groups: group 1 (n=28), women with a history of undeveloped pregnancy; group 2 (n=76), women who had COVID-19 with this preserved pregnancy.
Research. In all women, the analysis for the detection of TORCH infections showed increased titers of CVM and HSV, chlamydia and ureaplasma infections. The analysis of reproductive outcomes showed that the average number of pregnancies in group 1 was 3.5±0.8, in group 2 2.8± 0.4. The number of births in group 1 was 1.5±0.3, in group 2 2.5± 0.5. The number of reproductive losses (abortions, miscarriages, non-developing pregnancy) were 2.0±0.1 in group 1, 0.3±0.1 in group 2. According to the results of the hemostasiogram, signs of hypercoagulation were revealed in patients of group 2 compared with those of group 1. Thus, the level of hematocrit, PTI, fibrinogen and RFMC was 1.5-1.7 times higher. Complex treatment included taking anticoagulants, hepatoprotectors, vitamin therapy, polyunsaturated fatty acids, vitamin D, micronized progesterone, drinking regimen, protein diet.20% of group 2 women showed signs of hypercoagulation and detection of autoimmune antibodies after treatment, so all pregnant women were constantly under the supervision of a hematologist, cardiologist, nephrologist and therapist.
Conclusions. Women who have had COVID-19 during pregnancy and have a history of non-developing pregnancy need a complex of clinical and laboratory examination methods for effective treatment of pregnancy complications, which will allow to bring pregnancy to the birth of a viable fetus.

34. Genital Infections

P56 - Efficacy and Safety of Ibrexafungerp in Chinese Patients with Vulvovaginal Candidiasis (VVC): A Phase 3, Randomized, Double-blind Study

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Context

About 75% females are estimated to suffer VVC for e1 episode during their lifespan. In China, oral antifungal drugs against VVC (azoles) confront an increasing resistance rate. Ibrexafungerp (code name in China: HS-10366) is a first-in-class triterpenoid, commercialized in U.S. for the oral treatment of VVC.

Objective

To evaluate the efficacy and safety of ibrexafungerp vs. placebo in Chinese patients with VVC.

Methods

Double-blind, placebo-controlled, multicenter phase 3 study

35. Genital Malformations

P57 - Cancer risk assessment of Müllerian duct anomalies

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Objective : Congenital uterine anomalies are diagnosed in 2-4% of women with a normal reproductive outcome. These malformations result from developmental disorder during the formation, fusion or resorption of the Müllerian ducts. This study assessed the management of the risk of cancer in female patients harboring congenital uterine abnormalities among patients who presented at our genetic counselling during the genetic exploration of miscarriages and/or infertility between January 2002 and November 2016. Methods : We selected patients for whom congenital uterine anomalies were recorded and genetic counselling was delivered. Results : This study recruited ten patients with congenital uterine abnormalities (3% of the population of infertile patients of our genetic counselling)). Out of these patients, a bicornuate unicollis uterus was recorded in 50% of patients, a septate uterus with complete vaginal septum in one case (10%) and a segmental Müllerian agenesis with Mayer-Rokitansky-Küster-Hauser syndrome phenotype in four patients (40%). One of them had in association to unicornuate uterus and vaginal diaphragm at the superior third, a unilateral renal agenesis. Complete agenesis of the uterus was recorded in two patients. At the productive level, miscarriages and recurrent pregnancy losses with and without live birth were recorded in two patients, ectopic pregnancies were recorded in one patient and primary amenorrhea was recorded in two patients. The others presented a primary infertility and were candidate to ART techniques. Cytogenetic analysis of the ten patients showed a 46,XX formula. All of them received a genetic counselling and were informed about a minor risk of cancer, which requires regular monitoring. In fact, there is an evidence that clear cell adenocarcinomas of the ovary, endometrium, cervix, and vagina are associated with Müllerian duct abnormalities with/without renal malformations. Conclusions : These rare histologically gynecologic cancers and tumors are characterized by upregulation of the mTOR and RAS signaling pathways and demonstrate more likely microsatellite instability than other gynecologic cancers.

35. Genital Malformations

P58 - Case Report- Ectopic pregnancy confirming the transperitoneal transport of gametes/embryos

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We present a favourable outcome of managing a tubal ectopic pregnancy via laparoscopic salpingectomy , subsequent to transperitoneal migration of spermatozoa. We report on the case of a 30-year old patient with an unruptured ectopic pregnancy in a non-communicating heterotopic right fallopian tube. This tube was associated with a unicornuate uterus with a normal contralateral tube and ovary. The precise underlying mechanism is currently unknown, but this case provides supportive evidence for the phenomenon of transperitoneal sperm and oocyte migration. This case highlighted the importance of comprehensive assessment as a multi-disciplinary team, open communication and timely recognition as delayed diagnosis with such patients can be life-threatening.